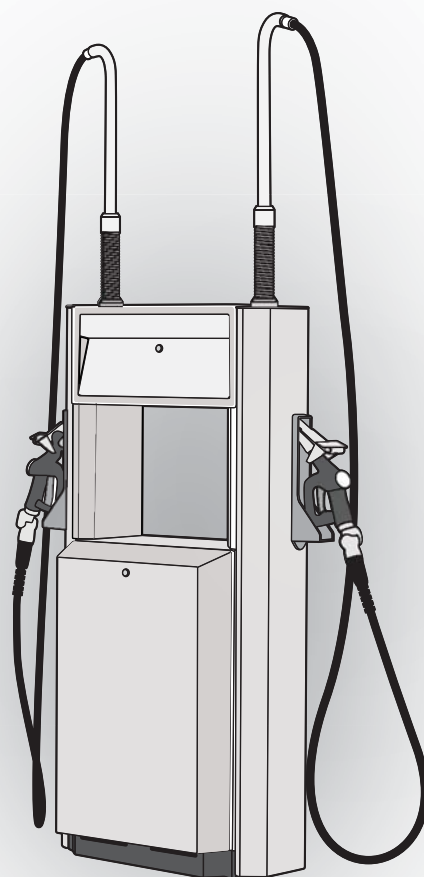


CEEPEC Series

Parts Manual

Part No. 2A91016
Issue 2



COPYRIGHT © GALLAGHER FUEL SYSTEMS LTD 2014

The information in this manual is subject to change without notice. Gallagher Fuel Systems Ltd has made every effort to verify the accuracy of this manual but does not make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current.

How to Contact Gallagher

Gallagher Fuel Systems Ltd	Phone: +64 6 327 0060
2 Station Rd	Fax: +64 6 327 6724
PO Box 308	Emails: support@fuel-systems.gallagher.co
Marton 4741	som@fuel-systems.gallagher.co
New Zealand	Web: http://fuelsystems.gallagher.co

DOCUMENT HISTORY

Issue	Date	Comments	Author
1.	08 Dec 2009	Initial issue	S. Dulieu
2.	22 Jul 2014	Updated and Gallagherised	S. Dulieu

SUMMARY

This manual lists the parts for identification/re-ordering purposes of the CEEPEC 1000 Series Fuel Delivery Systems with serial numbers prefixed 'D' onwards.

1000 SERIES PARTS - QUICK REFERENCE	9
PICTOGRAMS.....	9
1 INTRODUCTION	10
1.1 System Description.....	10
2 GENERAL SAFETY WARNINGS AND PRECAUTIONS	11
2.1 Hazard Warnings.....	11
2.2 Damage Warnings	12
1000 SERIES PARTS - QUICK REFERENCE	13
3 BASES & SUMPS	14
3.1 Bases.....	14
3.2 Sumps.....	16
3.3 Float Switch.....	19
4 BODY.....	21
4.1 Panels.....	22
4.2 Decals.....	24
4.3 Panel Fixings.....	25
4.4 Frame Crossmembers & Plates.....	27
4.5 Meters.....	30
4.6 Encoders.....	33
4.7 Solenoid Valves.....	35
4.8 Logic Box	37
4.9 Motors.....	39
4.10 Pump Units / Air Separators.....	42
4.11 Pipework	48
4.12 Cables.....	67
4.13 Connector (Junction) Boxes.....	74
5 COLUMNS	79
5.1 Column Panels	79
5.2 Column Caps and Hose Attachments	83
5.3 Flow Rate Switch.....	91
5.4 Holsters.....	93

6 HEAD	97
6.1 Head Cabinet Assembly.....	97
6.2 Head Door Assemblies.....	103
6.3 Cables	111
6.4 Other Electrical.....	113
6.5 CEEPEC II Door Assembly.....	115
6.6 CEEPEC II Head Front	117
6.7 CEEPEC II Head Rear	118
7 HOSES & NOZZLES	120
7.1 Hoses.....	120
7.2 Nozzles	122
8 REFERENCES	128

LIST OF FIGURES

Figure 1.	1000 Series (CEEPEC) Base	14
Figure 2.	1000 Series (CEEPEC) Base and Chassis Fixings	15
Figure 3.	1000 Series (CEEPEC) Sump - Dispensers	16
Figure 4.	1000 Series (CEEPEC) Sump - Pumps.....	17
Figure 5.	Float Switch Kit Contents	19
Figure 6.	Float Switch Replacement Cables.....	20
Figure 7.	Float Switch Bracket	20
Figure 8.	1000 Series FDS Body Panels	22
Figure 9.	1000 Series Protector Decal.....	24
Figure 10.	1000 Series Door Panel Fixings	25
Figure 11.	1000 Series Crossmembers.....	27
Figure 12.	Meter mounting Plate	28
Figure 13.	Meter Mounting Angle	28
Figure 14.	Tatsuno Meter - non UHF.....	30
Figure 15.	Tatsuno Meter - non UHF - Spare	31
Figure 16.	Meter-to-Mounting Plate Fixing Points (non-UHF)	31
Figure 17.	Tatsuno Lobe Meter and Encoder - Spare	32
Figure 18.	Encoder - 1000 Series	33
Figure 19.	Ultra High Flow Encoder - Parts.....	33
Figure 20.	Solenoid Valves.....	36
Figure 21.	Logic Box and Logic PCB	37
Figure 22.	Elnor Motor - Spares and Replacements.....	39
Figure 23.	Motor Pulleys	40
Figure 24.	Motor Mounting Plates	40
Figure 25.	Motor mounting Fixings	40
Figure 26.	Tatsuno Pump Unit/Air Separator	43
Figure 27.	Pump Unit Tatsuno Spare.....	44
Figure 28.	Pump Unit Connection	44
Figure 29.	Pump Unit Mounting Brackets	45
Figure 30.	1000 Series Configurations.....	48
Figure 31.	Hydraulic Pipework Overview - 4 hose pump model shown	49

Figure 32.	Non UHF Hydraulic Pipework - arrangement (MPD model shown)	50
Figure 33.	Non-UHF Meter Delivery Pipes	51
Figure 34.	Non-UHF Extension Pipes	51
Figure 35.	Non-UHF Upper Delivery Pipe	52
Figure 36.	Non-UHF Lower Delivery Pipe	52
Figure 37.	Non-UHF Riser Pipes	53
Figure 38.	Vent Pipe Assembly - spare	54
Figure 39.	Cimtek Filters and Filter Assemblies (non UHF)	54
Figure 40.	Hydraulic Pipework Overview - UHF Pumping Models	55
Figure 41.	Hydraulic Pipework Overview - UHF Unswitched Dispensers	56
Figure 42.	Hydraulic Pipework Overview - UHF Switched Dispensers	57
Figure 43.	Hydraulic Pipework - UHF pump (suction) model - arrangement	58
Figure 44.	Hydraulic Pipework - UHF dispensers - arrangement	59
Figure 45.	1000 Series UHF Dispenser Filter	60
Figure 46.	Meter Feed Pipe - UHF Pump	60
Figure 47.	Connector - Ultra	61
Figure 48.	Outlet Pipe - Ultra	61
Figure 49.	Manifold	61
Figure 50.	Left and Right Feed Pipes	62
Figure 51.	Dispenser Delivery Pipe - Ultra	62
Figure 52.	Bypass Pipe Assembly	62
Figure 53.	Mixer Pipe - Ultra	63
Figure 54.	Low Flow Bend Assembly - Spare	63
Figure 55.	Filter Elbow	63
Figure 56.	Filter Extension	64
Figure 57.	Filter Adaptor, Elements and Assemblies (UHF)	64
Figure 58.	U-Bolt 1¼ Pipe 304SS & Nuts 5/16	65
Figure 59.	4 Hose Pump (non-UHF)	68
Figure 60.	4 Hose Dispenser (non-UHF)	69
Figure 61.	Ultra High Flow Dual Dispenser (Switched)	70
Figure 62.	Ultra High Flow Pump Model	71
Figure 63.	Earth and Link Cables	73
Figure 64.	Junction Box	74

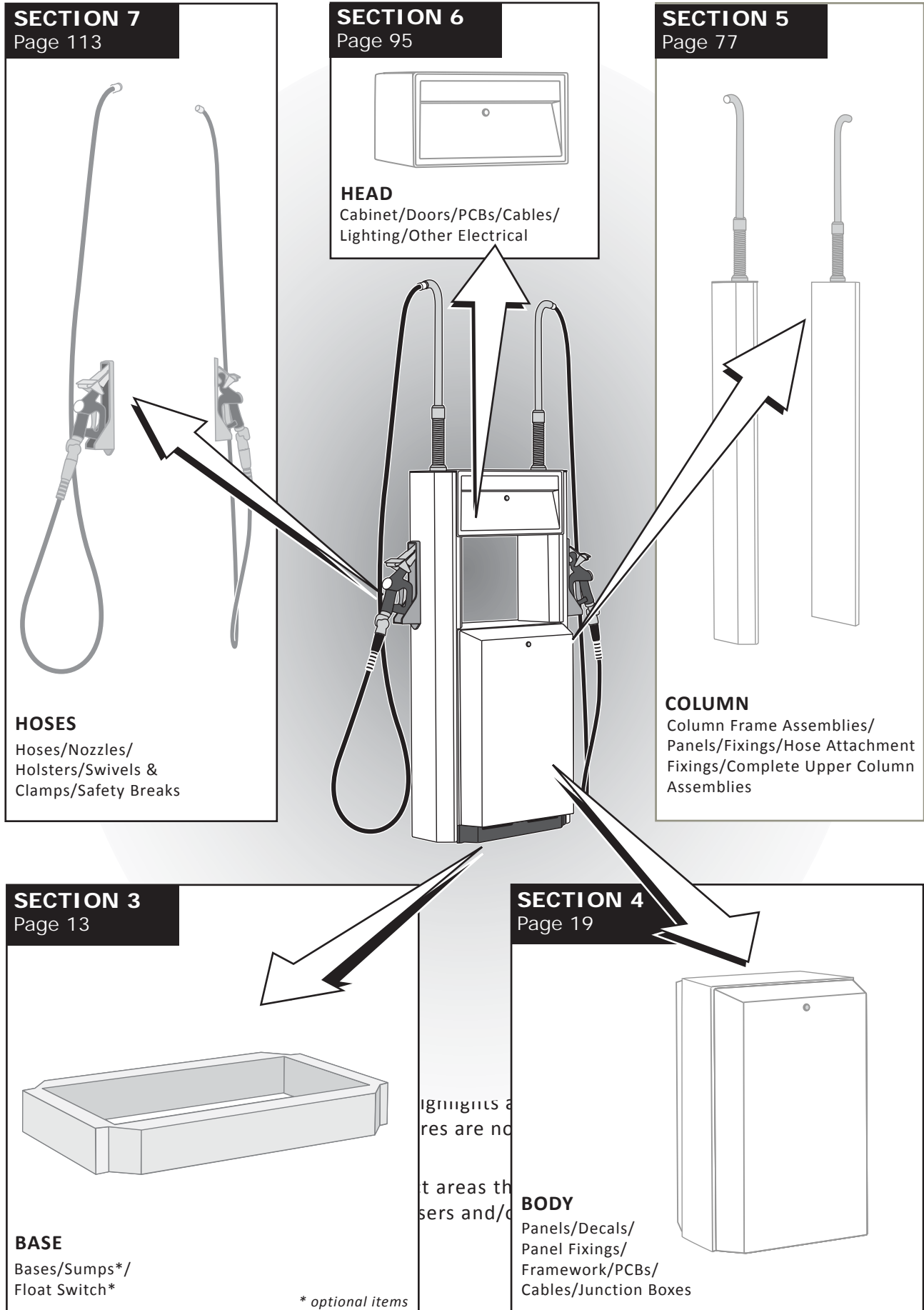
Figure 65.	Junction Box Gland Types	75
Figure 66.	Junction Box PCB Locating Fixings	76
Figure 67.	Junction Box Mounting Hardware.....	77
Figure 68.	1000 Series Column Construction.....	80
Figure 69.	Blanking Plates and Fixings	81
Figure 70.	1000 Series Hose Attachment Methods.....	83
Figure 71.	1000 Series Standard Hose Attachment.....	84
Figure 72.	1000 Series Hi-Arm Hose Attachment Petrol/Diesel 5/8"	85
Figure 73.	1000 Series Hi-Arm Hose Attachment Diesel 1"	86
Figure 74.	1000 Series UHF Hose Attachment.....	87
Figure 75.	1000 Series Column Caps	88
Figure 76.	Flow Rate Switch.....	91
Figure 77.	UHF Flow Rate Switch Decal	91
Figure 78.	Holster Assemblies	93
Figure 79.	Holster Assembly, Petrol - parts	94
Figure 80.	Holster Assembly, Diesel - parts	95
Figure 81.	Holster Cables.....	96
Figure 82.	1000 Series Head.....	97
Figure 83.	12V Battery Assembly	98
Figure 84.	Lighting Box and Lighting Assembly	98
Figure 85.	1000 Series Head Hinges, Brackets and Fixings.....	99
Figure 86.	Head PCBs	100
Figure 87.	Head Cabinet Door Assembly and Blanking Plate	103
Figure 88.	Head Cabinet Door Assembly - Parts	104
Figure 89.	Graphic Panels - 5 & 6 Digit	106
Figure 90.	Display PCBs - 5 Digit	107
Figure 91.	Display PCBs - 6 Digit	107
Figure 92.	Tote Assemblies, Brackets, Keypad & Cable Manager Switch.....	108
Figure 93.	1000 Series Head Cables - Layout.....	111
Figure 94.	1000 Series Head Display Cables - Layout.....	112
Figure 95.	CEEPEC II Door Assembly	115
Figure 96.	CEEPEC II Head Front	117
Figure 97.	CEEPEC II Head Rear	118

Figure 98.	1000 Series Hose options.....	120
Figure 99.	ZVA Slimline II Nozzles.....	122
Figure 100.	Covers and Splashguards (Slimline I).....	123
Figure 101.	Covers and Splashguards (Slimline II).....	123
Figure 102.	Hose Sealing Washers	124
Figure 103.	Positrip Replacement Kit (NZ Only)	124
Figure 104.	Safety Breaks and Richards Swivels	126

LIST OF TABLES

Table 1.	Solenoid Valve Matrix	35
Table 2.	Motor Upgrade Kits.....	39
Table 3.	Non-UHF Hydraulic Pipe Matrix	49
Table 4.	Main Body Cables	72
Table 5.	Column Caps & Hose Attachments.....	89
Table 6.	Software Version Applicability	101
Table 7.	Graphic Panel Options.....	105

1000 SERIES PARTS - QUICK REFERENCE



1 INTRODUCTION

The CEEPEC 1000 fuel delivery system is an approved system. These approvals and certifications apply to the fuel delivery system as a whole. Many parts and sub-systems are **not** serviceable. Modifying or tampering with some parts may invalidate the certification for the complete fuel delivery system.

Any servicing or repairs should only be carried out by suitably qualified technicians approved by Gallagher Fuel Systems Ltd.

Do not attempt to service or repair any parts not detailed in the servicing manual.^[4]



Any replaceable or serviceable parts must be replaced with **like-for-like** replacements, failure to do so will invalidate the product warranty and may result in dangerous faults. To ensure suitability and compliance with the terms of the product warranty, PEC requires that only genuine Gallagher parts are used.

When requesting parts from Gallagher, the following information will help us determine the correct part required:

- (a) part number or detailed description of part
- (b) service company;
- (c) FDS model number;
- (d) FDS serial number;
- (e) oil company;
- (f) site name.

1.1 System Description

The FDS system is described separately^[1].

2 GENERAL SAFETY WARNINGS AND PRECAUTIONS



2.1 Hazard Warnings



No naked flames.



Isolate electrical supply before opening dispenser cabinet for maintenance. Physically lock, restrict access to, or tag the circuit breakers you turn off when working on the fuel delivery system.



The fuel delivery system must be supported at all times by a minimum of 4 anchor bolts. External support must be used until these 4 anchors are secured.



All personnel working with fuel delivery systems must be made aware of how, in an emergency, to turn OFF power to the fuel delivery system and any remote fuel storage system. They must also be briefed on fire fighting and other relevant inflammable liquid safety procedures.



There are exposed belt-drives between mechanical pumps and their motors in fuel pump equipped fuel delivery systems. Ensure that power to the motors is isolated and that the motors have stopped running before opening external panels.



Ensure fuel pipes, flanges etc. are clear of debris before re/assembling.



Have all leaks or defects repaired immediately.



Fuels present a toxic hazard and suitable precautions should be taken at all times to prevent ingestion, inhalation and contact with skin and eyes.



Only lift units using the correct lifting points as indicated in the CEEPEC 1000 Installation Manual^[1]. Never lift by the nozzle boot, sheet metal, etc.. Incorrect lifting also risks damage to equipment which will not be covered under warranty.



Any repairs must not compromise the safety approval of the fuel delivery system.



The system must not be modified without consulting Gallagher Fuel Systems Ltd.



Only use genuine spare parts. The CEEPEC 1000 FDS is supplied by Gallagher Fuel Systems Ltd as a fully approved system. Genuine parts as specified in the original design are integral to the correct function and safety of the system. Gallagher Fuel Systems Ltd cannot be held responsible for any consequences of using non-genuine parts and will not support under warranty any CEEPEC 1000 where substitution has occurred. Any replacement parts should be like for like. In addition the repairer may be legally liable for the consequences of any unauthorised modifications.



Never operate a non-intrinsically safe circuit without the flameproof enclosure cover fitted.



Do not short out isolation or intrinsic safety barriers.

2.2 Damage Warnings



Electronic equipment in the fuel delivery system is susceptible to damage by electro-static discharge (ESD). Suitable preventative measures should be taken at all times when working on the electronics system.



Do not clean using hoses or other pressurised systems. Pressurised water ingress damage invalidates the warranty.



The operating environment requirements (temperature, humidity, etc.) defined in the 1000 System description^[1] must not be exceeded.



Do not clean using abrasive materials such as steel wool or abrasive polishes unless specifically recommended.



Ensure air is bled from product lines of remote dispensers and mechanical pumps before dispensing product.

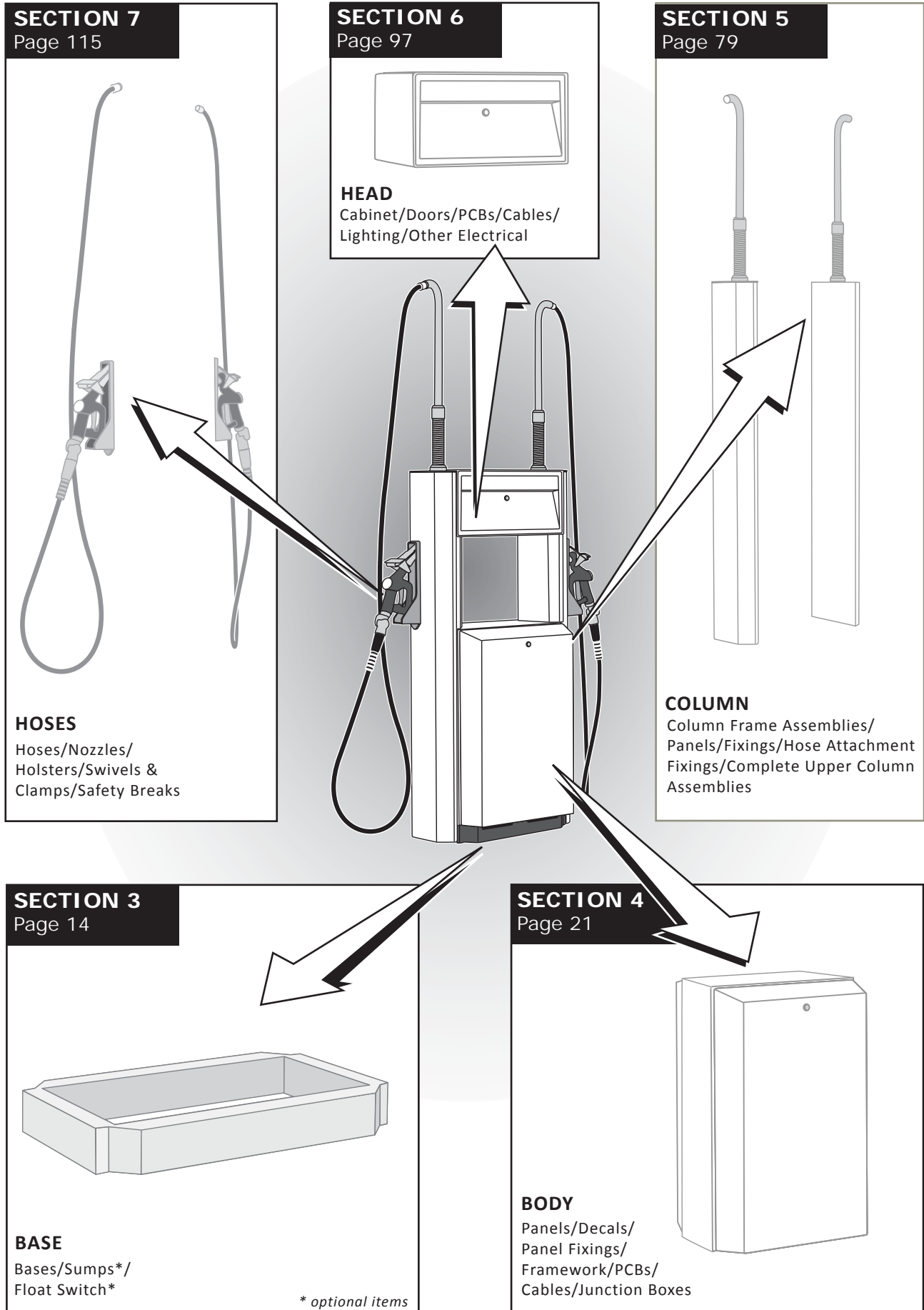


Flush all fuel supply lines and ensure flanges, etc. are clear of debris before connection.



Pressure must not be applied to the upper frame or panels by strops or other pieces of lifting equipment.

1000 SERIES PARTS - QUICK REFERENCE





3 BASES & SUMPS

The 1000 Series (CEEPEC) FDS is built around a chassis bolted to a base. The chassis is a sheet metal structure which forms the sides and top of the FDS body (see section 4.1) and the bottom of each side is firmly fixed to the sides of the base. This gives a solid, compact structure and a foundation for the variety of other components that make up the FDS. The base is detailed in section 3.1

Sumps are available in two versions, to suit either pressure (dispenser) or suction (pump) systems. See section 3.2 for sump options.

An optional sump-mounted Float Switch is also available for deep sumps. These are detailed in section 3.3.

The parts detailed in this section are:

- (a) Bases (section 3.1);
- (b) Sumps (section 3.2);
- (c) Float Switch (section 3.3).

3.1 Bases

The 1000 Series (CEEPEC) base is illustrated in figure 1.

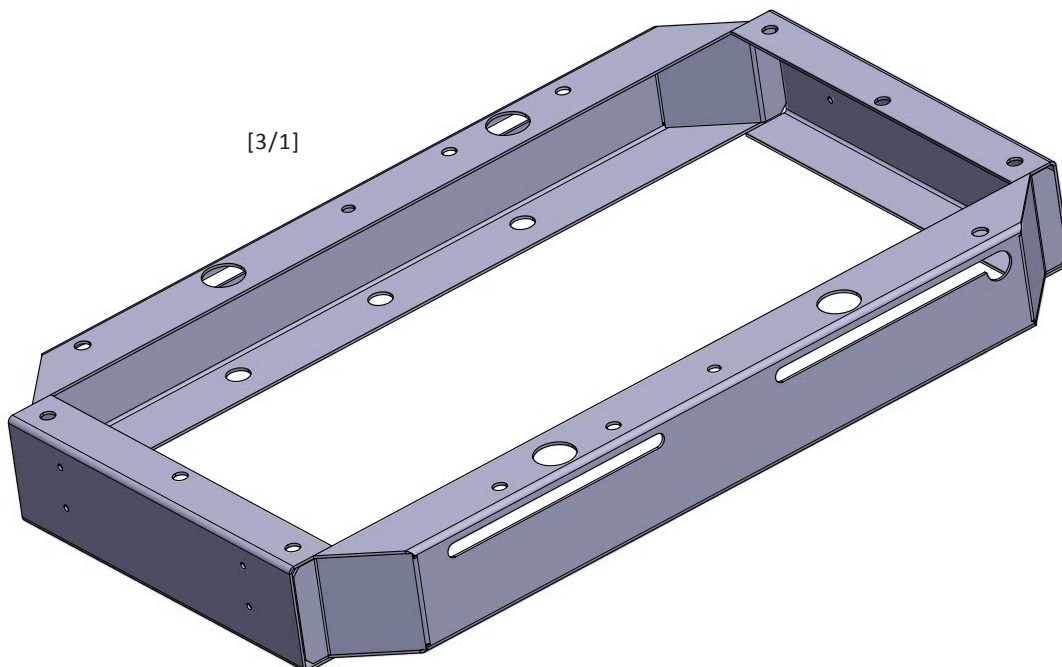


Figure 1. 1000 Series (CEEPEC) Base

The chassis is fixed to the base at three points on each side using a setscrew, two flat washers and a nut, as shown in figure 2

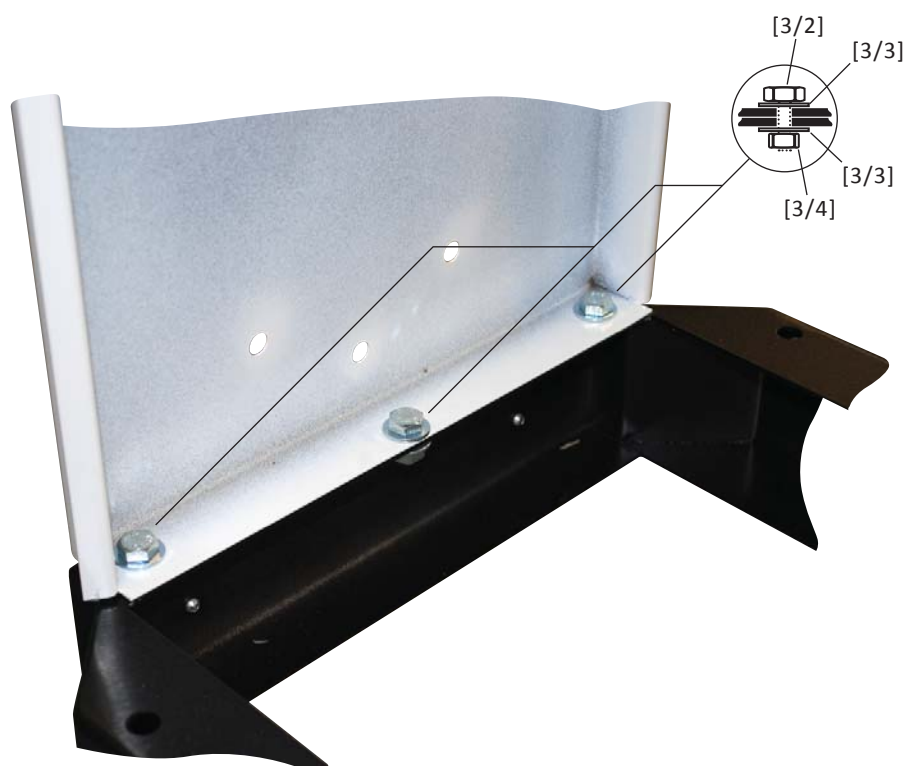


Figure 2. 1000 Series (CEEPEC) Base and Chassis Fixings

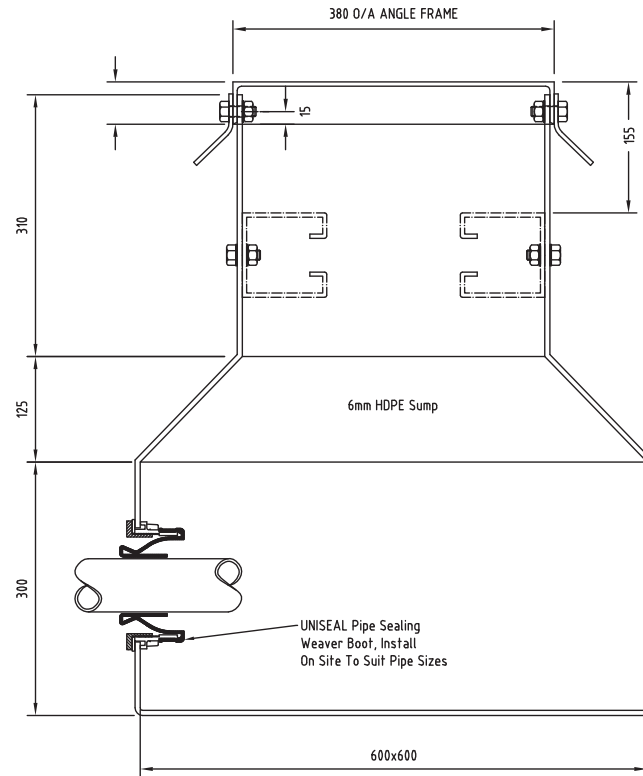
3.1.1 Parts List - Bases

<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
Base - CEEPEC	4G83600	14	[3/1]
Setscrew M8 x 16 ZP	5D00090	15	[3/2]
Washer Flat M8	5C04440	15	[3/3]
Nut Full Steel M8 ZP	5B03240	15	[3/4]



3.2 Sumps

Two sump options are available for the 1000 Series (CEEPEC) FDS, to suit either pressure (dispenser) or suction (pump) systems. They are illustrated in figures 3 and 4



[3/5]

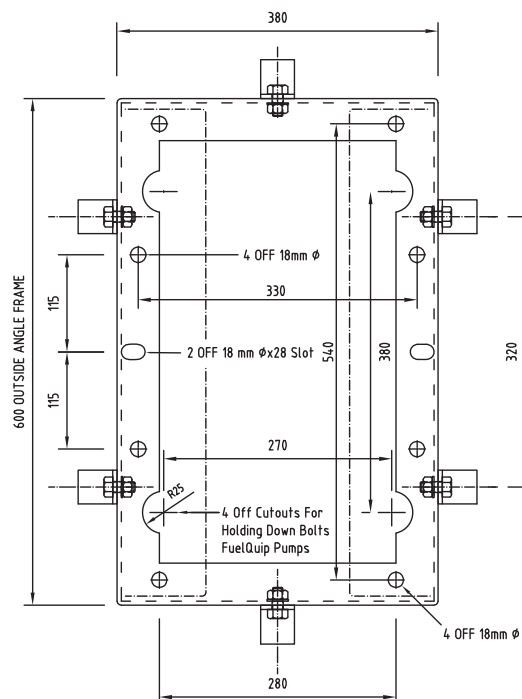
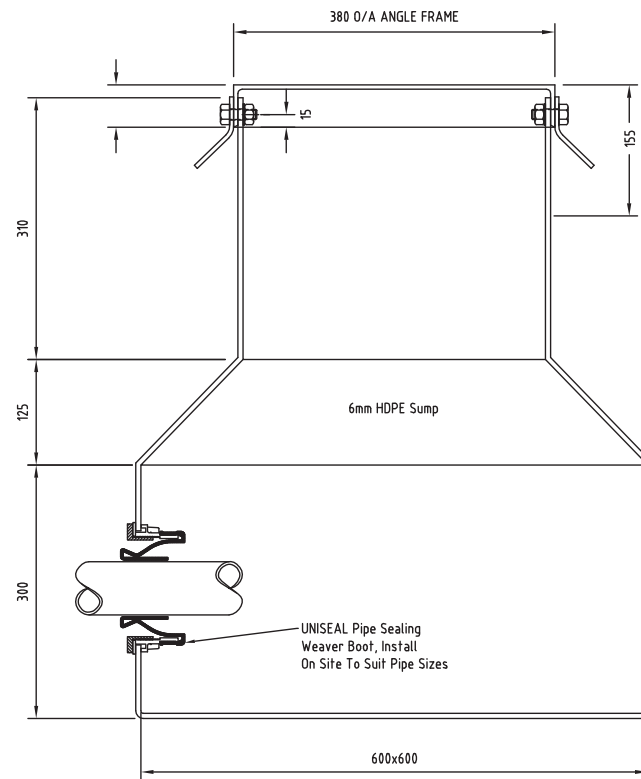
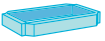


Figure 3. 1000 Series (CEEPEC) Sump - Dispensers



[3/6]

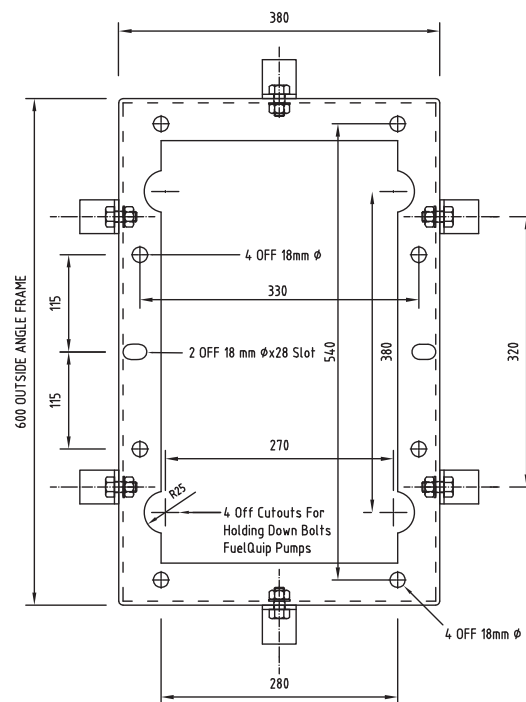


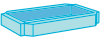
Figure 4. 1000 Series (CEEPEC) Sump - Pumps



3.2.1 Parts List - Sumps

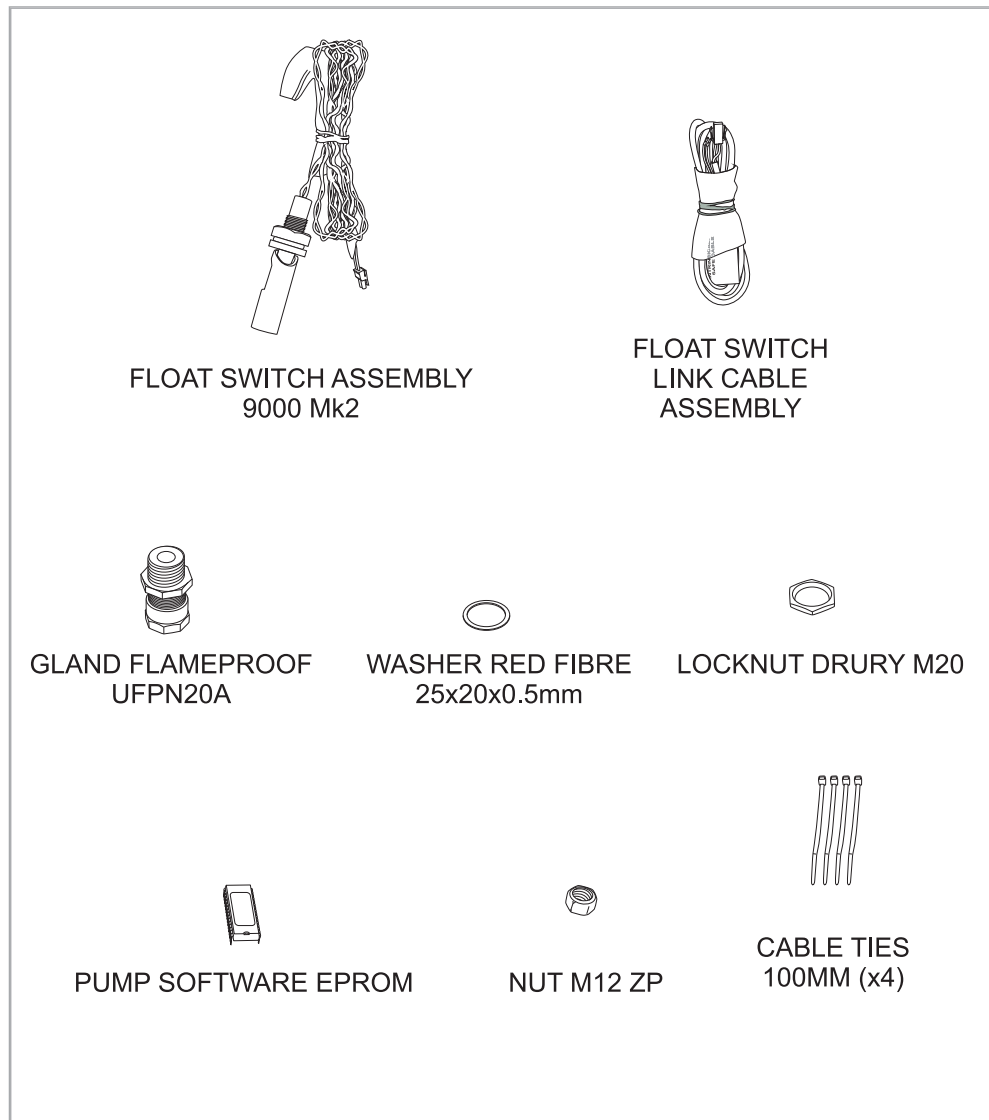
<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
Sump - CEEPEC Dispenser - for use with pressure systems	4G22465	16	[3/5]
Sump - CEEPEC Pump - for use with suction systems	4G22460	17	[3/6]

3.3 Float Switch



The Gallagher Float Switch is an option that can be specified with the original FDS or purchased as a retro-fit kit. (This kit does not include a Float Switch Bracket)

Replacement cables, brackets and the Float Switch Assembly, are also sold individually.

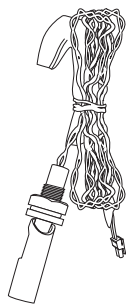


[3/7] Float Switch Kit - 1000 Retrofit

Figure 5. Float Switch Kit Contents



Copyright 2017

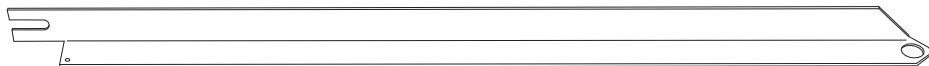


[3/8]
Float Switch
Assembly 9000
Mk2



[3/9]
Float Switch
Link Cable
Assembly

Figure 6. Float Switch Replacement Cables



[3/10] Float Switch Bracket - CEEPEC Long

Figure 7. Float Switch Bracket

3.3.1 Parts List - Float Switch

<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
CEEPEC Float Switch Kit - Long Retrofit	2A83377	19	[3/7]
Float Switch Assembly 9000 Mk2	2A92067	20	[3/8]
Float Switch Link Cable Assembly	2A92068	20	[3/9]
Float Switch Switch Bracket - CEEPEC Long	4G83381	20	[3/10]

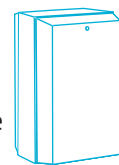
4 BODY

The 1000 Series FDS body consists of five panels, which are common to all models. described in section 4.1.

A panel protector decal is an option available on the body of the 1000 Series and is detailed in section 4.2.

Fixings for the panels are described in section 4.3.

Rails and plates are used in non-Ultra High Flow models to support the meters and are described in section 4.4



The meters are similar in all non-Ultra High Flow models and they are described in section 4.5, along with the meter specific to the Ultra High Flow (UHF) models.

Encoders also differ between UHF and other models. They are described in section 4.6.

There are four different types of solenoid valve used in the 1000 Series range. These are detailed in section 4.7.

The logic box is common to all models and is described in section 4.8.

Section 4.9 describes the motors used throughout the 1000 Series range, and details the various fitting, mountings and options.

The pump units/air separators and the range of spare parts available for them are explained in section 4.10.

Internal pipework varies considerably between the numerous configurations within the range. It is detailed and explained in section 4.11.

Section 4.12 details the cables contained within the body of a 1000 Series FDS.

Junctions boxes are also located in the 1000 Series FDS body and are described in section 4.13.

4.1 Panels

The body of a 1000 Series FDS is made up of 5 panels, as shown in figure 8 below.

Part numbers for CEEPEC II panels are suffixed with an "a".

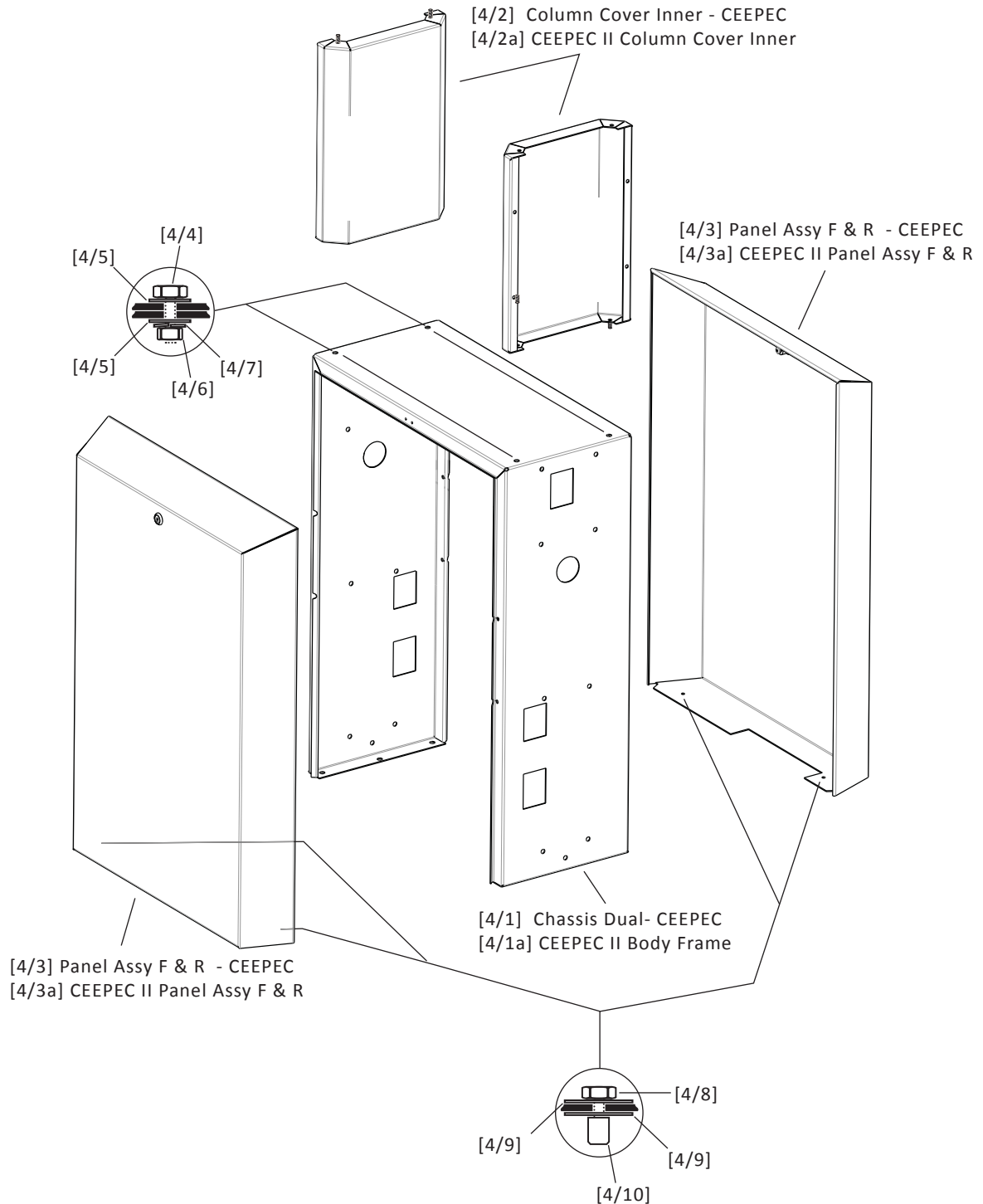
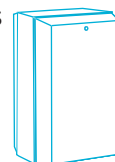


Figure 8. 1000 Series FDS Body Panels

The main doors are identical front and rear. They are supplied complete with lock and locating pins.

The column cover inners are identical both sides. These panels are available as spare parts and come ready fitted with nutserts and include the fixings for attaching the panel to the chassis.

Replacement chassis are also available, complete with fixings for attaching the chassis to the base.



4.1.1 Parts List - Body Panels

<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
Chassis Dual - CEEPEC	4G83660	22	[4/1]
CEEPEC II Body Frame	4G80224	22	[4/1a]
Column Cover Inner - CEEPEC	P83623	22	[4/2]
CEEPEC II Column Cover Inner	4G80218	22	[4/2a]
Panel Assembly F & R - CEEPEC	P83771	22	[4/3]
CEEPEC II Panel F & R	4G80227	22	[4/3a]
Setscrew M8 x 16 ZP	5D00090	22	[4/4]
Washer Flat M8	5C04440	22	[4/5]
Nut Full Steel M8 ZP	5B03240	22	[4/6]
Washer Spring M8	5C04210	22	[4/7]
Setscrew M6 x 16 ZP	5D00960	22	[4/8]
Washer Fender ¼ ID x 1.25 OD	5C04470	22	[4/9]
Panel Locating Pin	2A83745	22	[4/10]

4.2 Decals

A durable, transparent protective decal is available for the upper surface of the 1000 Series FDS chassis.

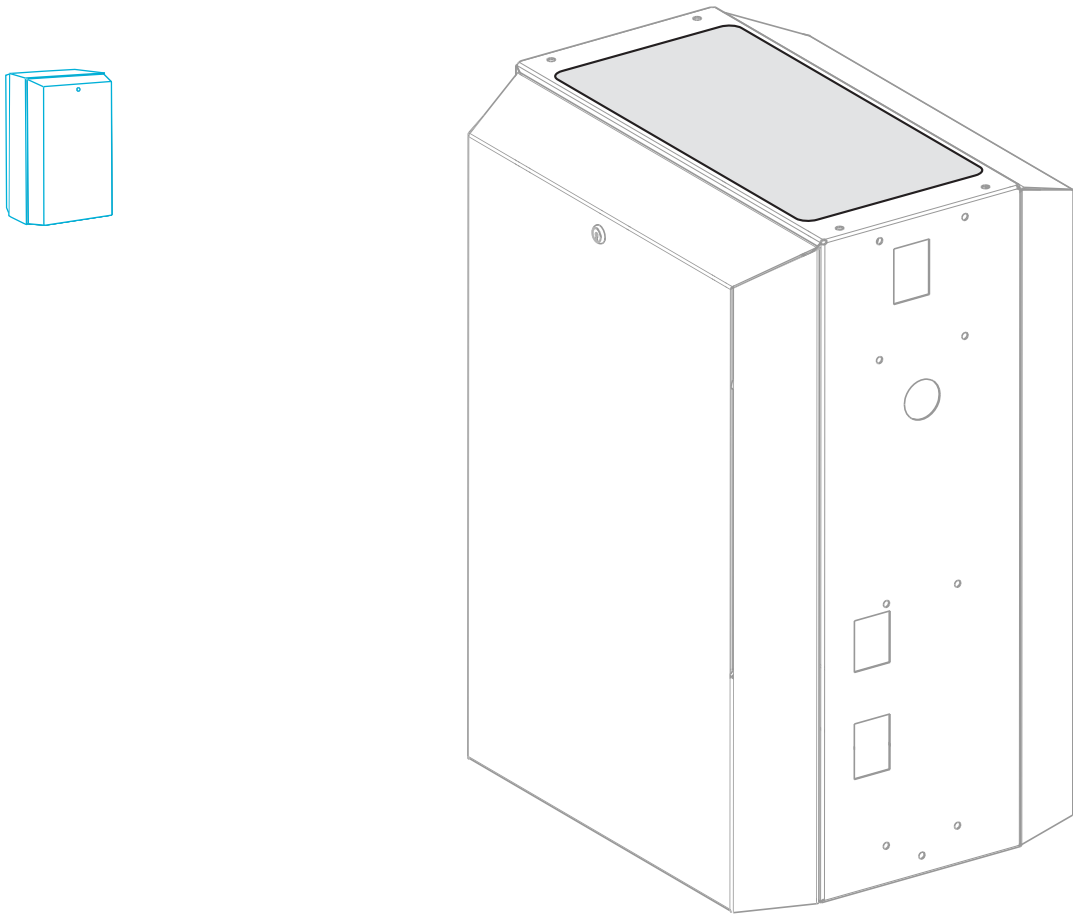


Figure 9. 1000 Series Protector Decal

4.2.1 Parts List - Decals

Part Description	Part No.	Page No.	Item No.
Decal Protect - CEEPEC	3E88612	24	[4/11]

4.3 Panel Fixings

The front and rear doors of a 1000 Series FDS are each supported by two brackets, one attached to the upper part of the chassis and another running from the frame cross members (see section 4.4) to the first bracket. The door lock latch engages this assembly and secures the door in place. The bottom edges of the doors are located by two panel locating pins as described in section 4.1. Replacement locks (supplied complete with two keys) are available.

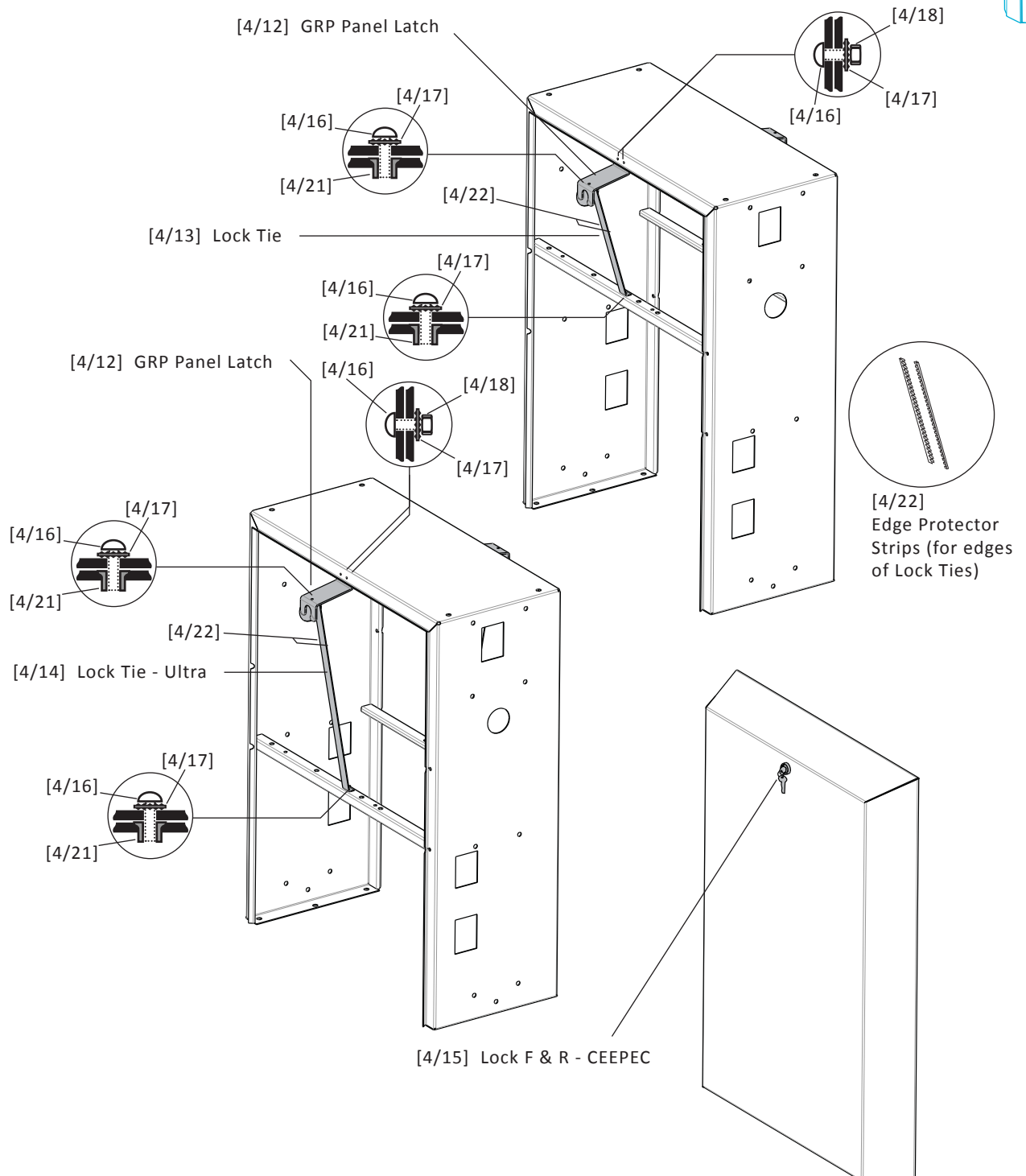
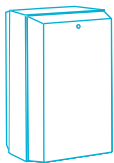


Figure 10. 1000 Series Door Panel Fixings

4.3.1 Parts List - Panel Fixings

<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
GRP Panel Latch	4G83653	25	[4/12]
Lock Tie	P83708	25	[4/13]
Lock Tie - Ultra	P83918	25	[4/14]
Lock F & R - CEEPEC	4G25960	25	[4/15]
Screw Button Socket Head M4 x 12 SS	5D01670	25	[4/16]
Washer Internal Lock M4	5C04500	25	[4/17]
Nut Full Steel M4 ZP	5B03160	25	[4/18]
GRP Panel Latch & Lock Tie Dual Spare	P83653	25	[4/19]
GRP Panel Latch & Lock Tie Dual Ultra Spare	P83653U	25	[4/20]
Nutsert M4	5B03290	25	[4/21]
Edge Protector Strips (Grommet KG 012 250mm Lengths)	2M29100	25	[4/22]



4.4 Frame Crossmembers & Plates

Non-UHF variants of the 1000 Series range have their meters located in the upper half of the body, mounted on plates which are supported by two identical crossmembers fixed to the chassis. (Refer to section 4.5 for details of the meters.)

Although the same crossmembers are used in all cases, they may be located in two different positions vertically (see figure 10) depending on the variant.

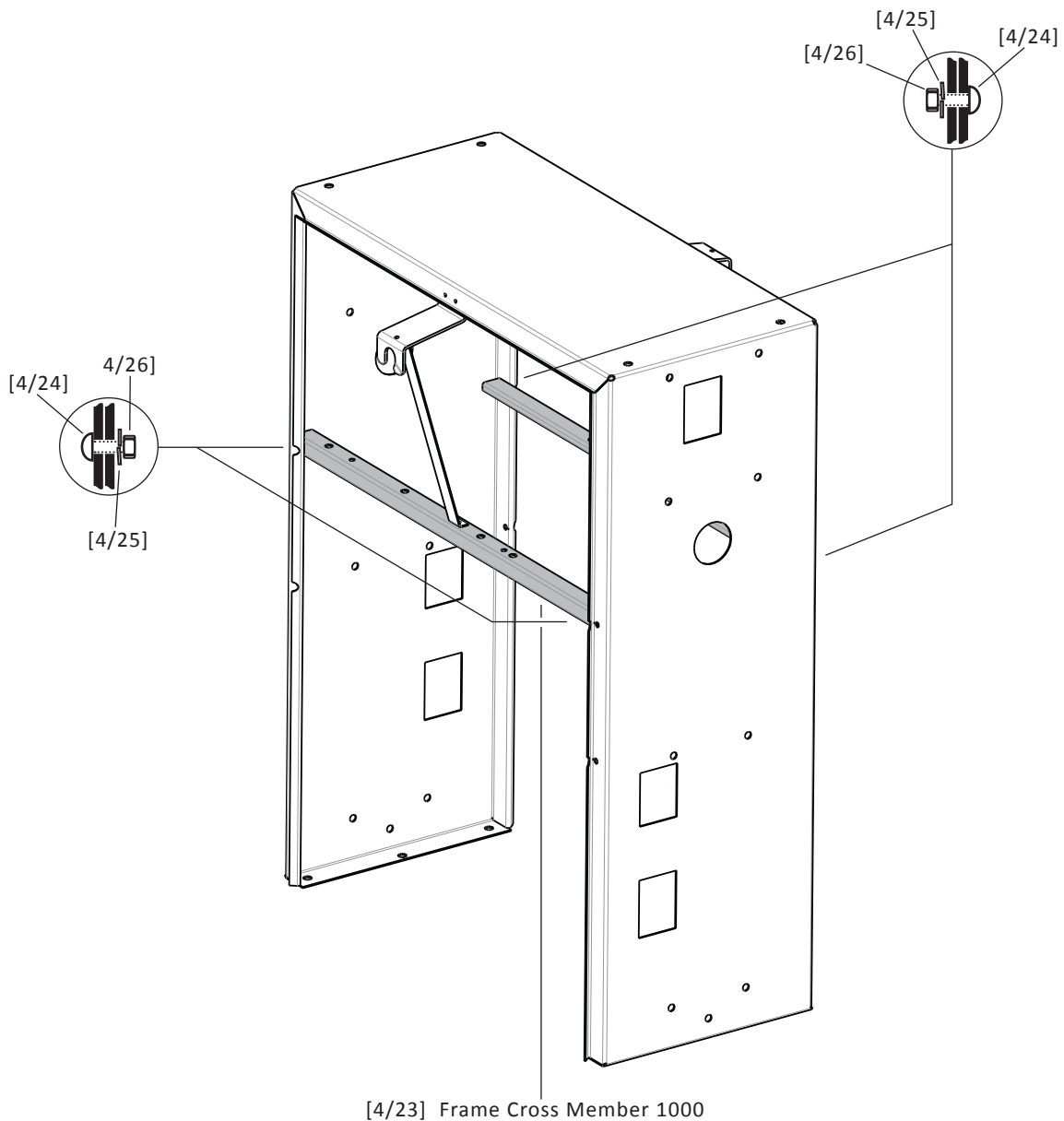


Figure 11. 1000 Series Crossmembers

The crossmembers support the plates used to mount the meters. These plates are common to all non-UHF variants.

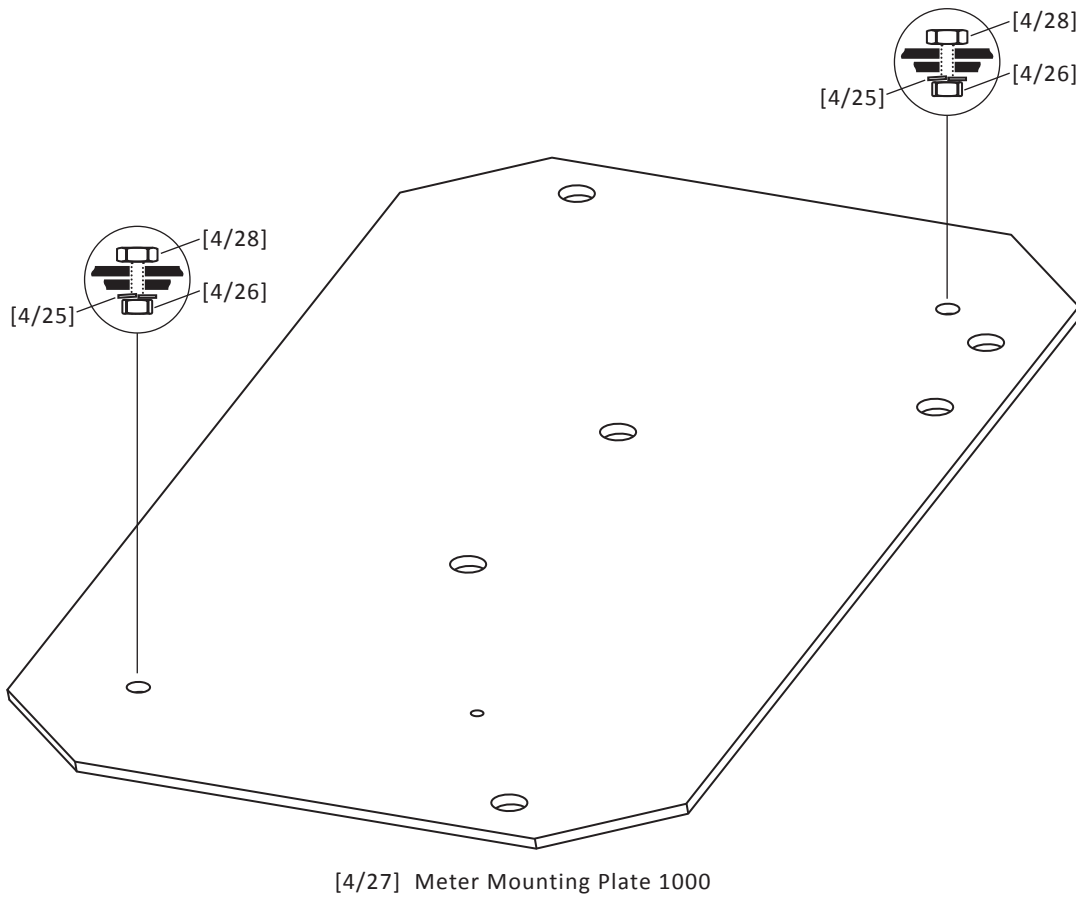


Figure 12. Meter mounting Plate

The UHF variants use a different meter and therefore employ a different mounting method, using an angled bracket mounted onto the crossmembers which is then fixed to the meter's feed pipe.

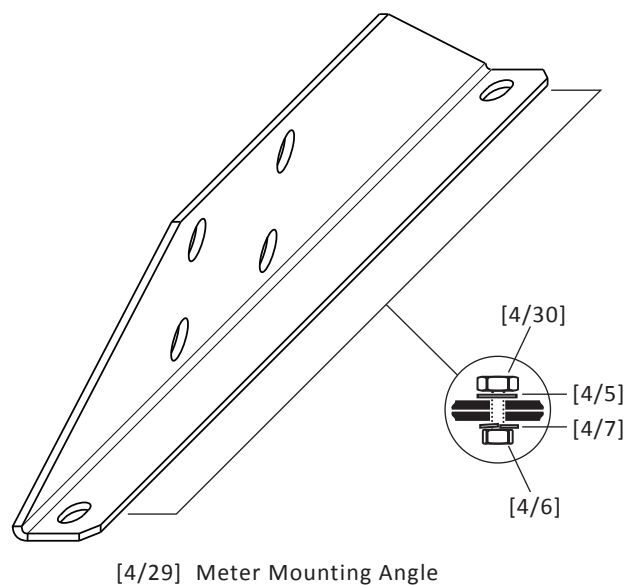
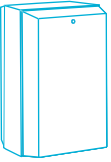


Figure 13. Meter Mounting Angle

4.4.1 Parts List - Crossmembers and Plates

<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
Frame Cross Member 1000	P83630	27	[4/23]
Screw Button Socket Head M6 x 16 SS	5D01650	27	[4/24]
Washer Spring M6	5C04200	27	[4/25]
Nut Full Steel M6 ZP	5B03230	27	[4/26]
Meter Mounting Plate 1000	4G83631	28	[4/27]
Setscrew M6 x 12 ZP	5D00060	28	[4/28]
Mounting Angle	4G83975	28	[4/29]
Setscrew M8 x 20 ZP	5D00100	28	[4/30]
Washer Flat M8	5C04440	28	[4/5]
Nut Full Steel M8 ZP	5B03240	28	[4/6]
Washer Spring M8	5C04210	28	[4/7]



4.5 Meters

Two types of meter are used in the 1000 Series FDS range, a lobe meter for ultra high flow variants and one for all other variants.

Non-UHF meter

All non-UHF variants of the 1000 Series FDS range use the same high-accuracy Tatsuno meter. A comprehensive range of spares is available for this meter, along with fully assembled replacement meters.

The meter(s) are fixed to the meter mounting plate(s) at two points.



Note that although the non-UHF meters are all the same, the configuration of the meter (e.g. orientation of the cap, etc.) differs between models. This is irrelevant from the perspective of spare parts.

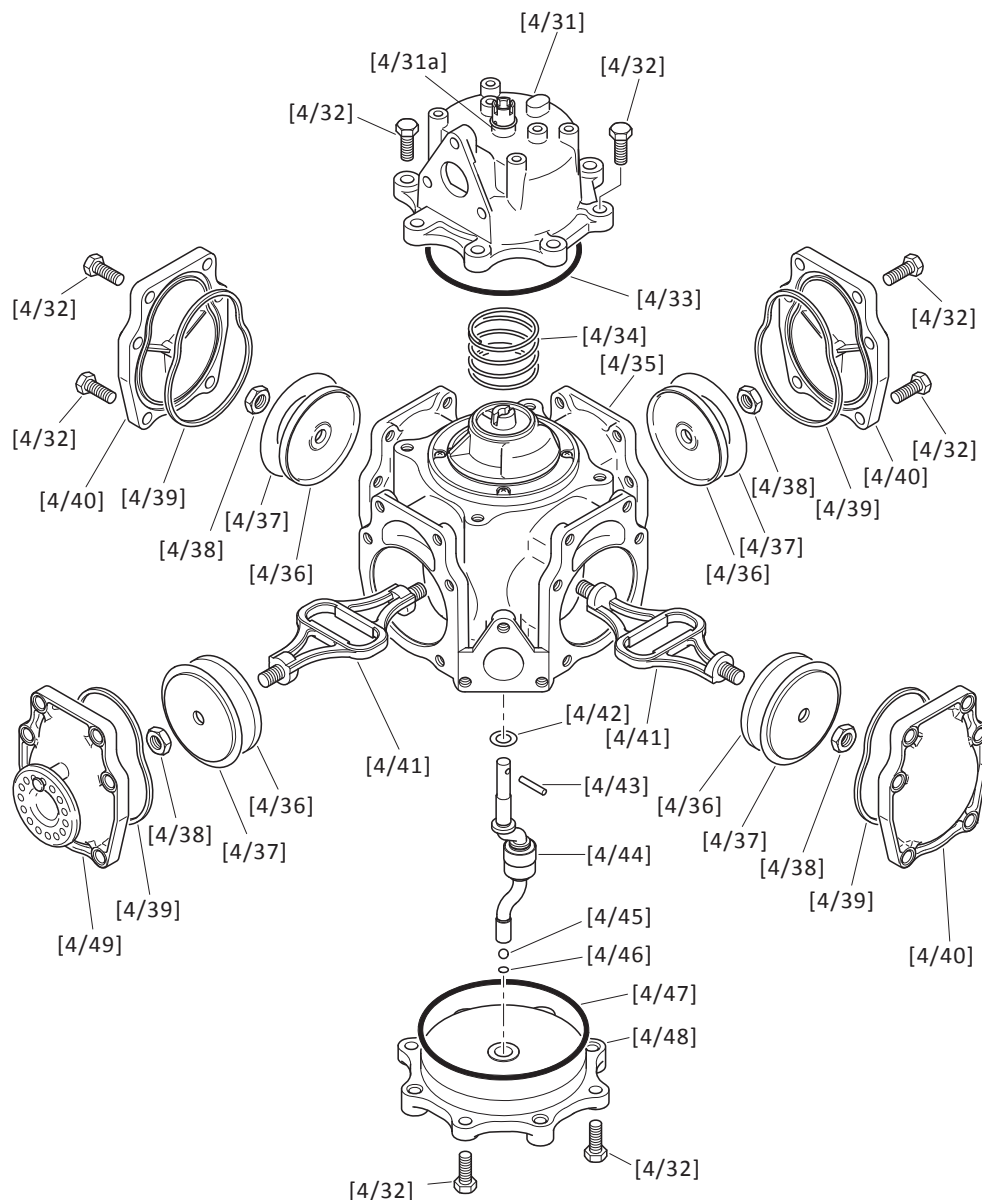
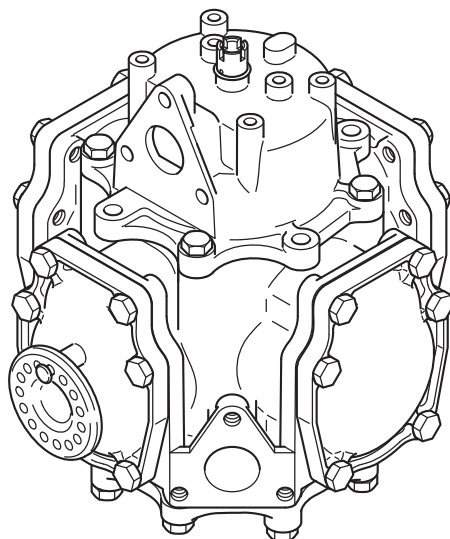


Figure 14. Tatsuno Meter - non UHF



[4/50] Tatsuno Meter - non UHF - Spare

Figure 15. Tatsuno Meter - non UHF - Spare



Configuration of Meter may need to be altered to suit configuration of FDS. Note that the adjustment of the wheel face (Adjustment Assembly) must only be exchanged with **opposite** Piston Cover Assembly, not adjacent.

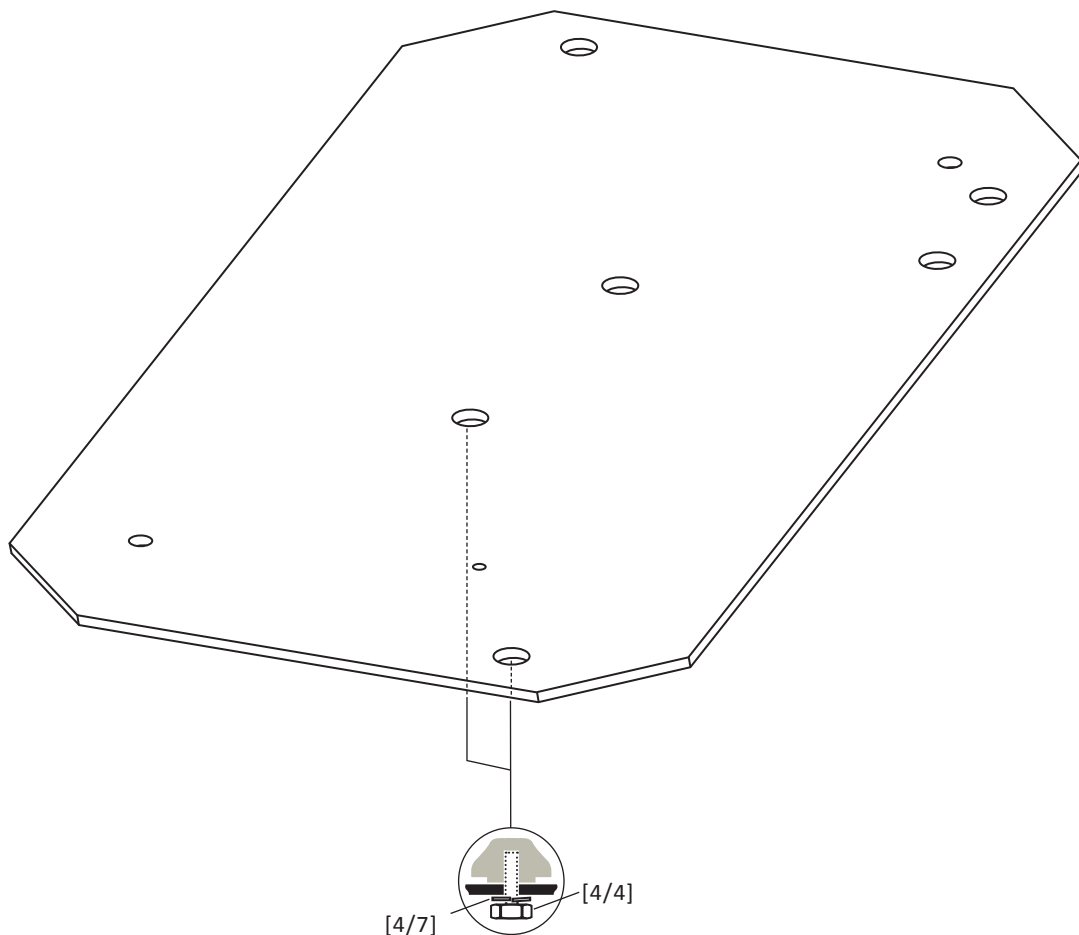


Figure 16. Meter-to-Mounting Plate Fixing Points (non-UHF)

UHF Meter (Lobe Meter)

The Ultra High Flow variants of the 1000 Series range employ Tatsuno's highly accurate Lobe Meter. This is available only as an assembly, which includes the encoder.

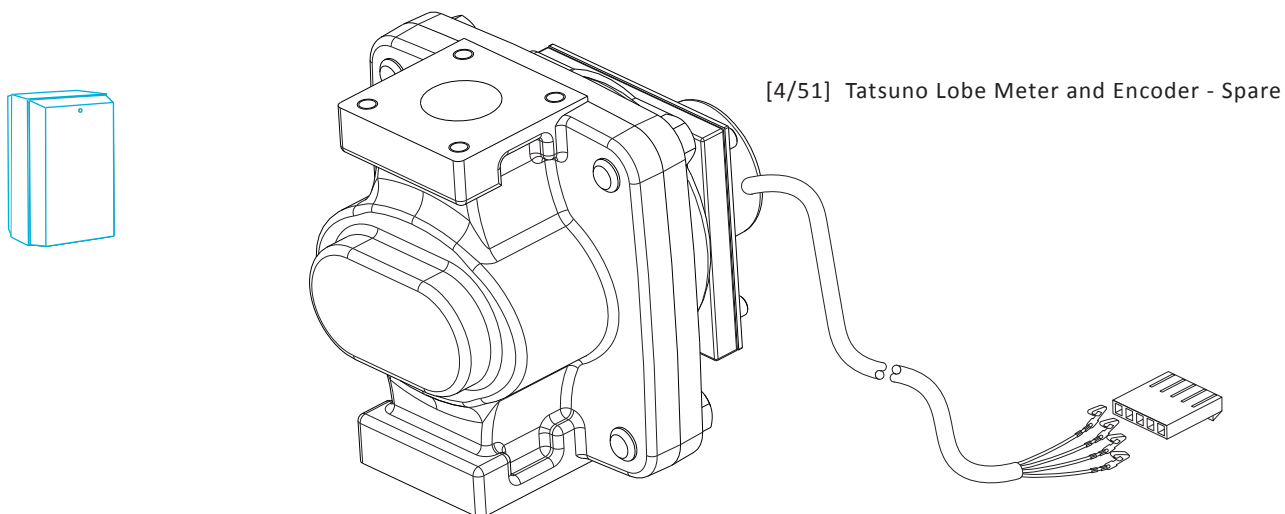


Figure 17. Tatsuno Lobe Meter and Encoder - Spare

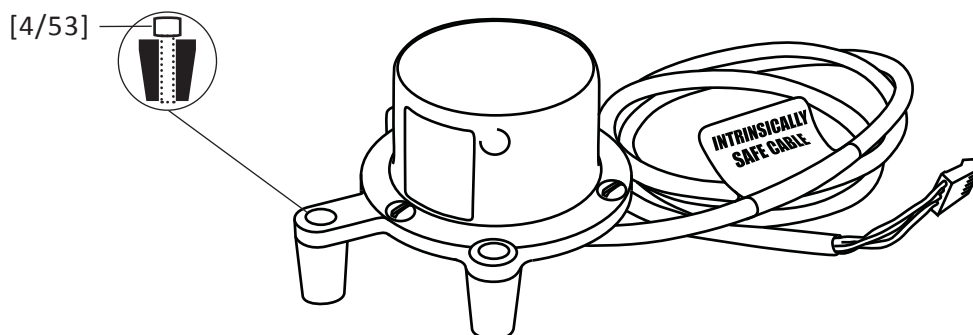
4.5.1 Parts List - Meters

<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
Upper Cover Assembly	4G00514	30	[4/31]
Oil Seal and Retainer	4G00533	30	[4/31a]
Bolt M8 x 22	5D00028	30	[4/32]
O-Ring G100	4G00273	30	[4/33]
Spring	4G00416	30	[4/34]
Body Assembly	4G00515	30	[4/35]
Piston	4G00422	30	[4/36]
Retainer	4G00423	30	[4/37]
Lock Nut M10	5B00013	30	[4/38]
Gasket	4G00129	30	[4/39]
Piston Cover	4G00426	30	[4/40]
Connecting Rod	4E00468	30	[4/41]
Washer (C)	5C00019	30	[4/42]
Grooved Pin (E Type)	5D00029	30	[4/43]
Crank Shaft Assembly	4G00419	30	[4/44]
Ball	4G00420	30	[4/45]
Washer (B)	5C00005	30	[4/46]
O-Ring G110	4G00427	30	[4/47]
Lower Cover Assembly	4G00421	30	[4/48]
Piston Cover Assembly & Adjustment Handle	4G94900	30	[4/49]
Flow Meter Tatsuno Spare	P820030	31	[4/50]
Flow Meter Tatsuno Lobe and Encoder Spare	P83051	32	[4/51]
Setscrew M8 x 16 ZP	5D00090	31	[4/4]
Washer Spring M8	5C04210	31	[4/7]

4.6 Encoders

Two types of encoders are used throughout the 1000 Series FDS range, one for each type of meter (see section 4.5).

Encoders for the non-UHF variants are not serviceable but are available as spare parts, being supplied complete with cable and plug.



[4/52] Encoder Assembly 1000 Series Spare

Figure 18. Encoder - 1000 Series

The Ultra High Flow models use a different encoder, for which two spare parts are available:

- (a) encoder cap and cable assembly (attached to the Meter using 3 x M4 nuts [4/18]);
- (b) encoder PCB assembly (attached to the Meter using 2 x dome nuts [4/56]) .

These parts are shown in figure 19.



Encoders are also supplied as part of the UHF lobe meter and encoder assembly, see section 4.5 for full details.



It is important that Sil Pads [4/57] are used between the Meter and the PCB to avoid shorting the PCB.



[4/54] UHF Encoder Cap & Cable Assembly

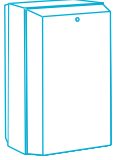


[4/55] UHF Encoder PCB Assembly

Figure 19. Ultra High Flow Encoder - Parts

4.6.1 Parts List - Encoders

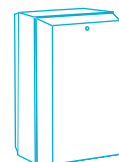
<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
Encoder Assembly Series II Spare	P07434	33	[4/52]
Capscrew Socket Head M6 x 30 SS	5D01030	33	[4/53]
Encoder Cap & Cable Assembly	P82783	33	[4/54]
Encoder PCB Assembly Hi-Flow Spare	P33866	33	[4/55]
Nut Dome Nylon PNN632C	5B03520	33	[4/56]
Sil Pad 400(TO220)3223 07AC 54	2M65790	33	[4/57]



4.7 Solenoid Valves

The 1000 Series FDS range uses four different solenoid valves:

- (a) Solenoid Valve Asco $\frac{3}{4}$ ";
- (b) Solenoid Valve Asco PAXD210D4V mod'd;
- (c) Solenoid Valve Asco 1" mod'd;
- (d) Solenoid Valve Asco 4 Product Spare.



Non-UHF models use only one $\frac{3}{4}$ " standard flow valve per hose. UHF models use one or two valves per hose depending on the specific model. The following table details the model variants and the valves used.

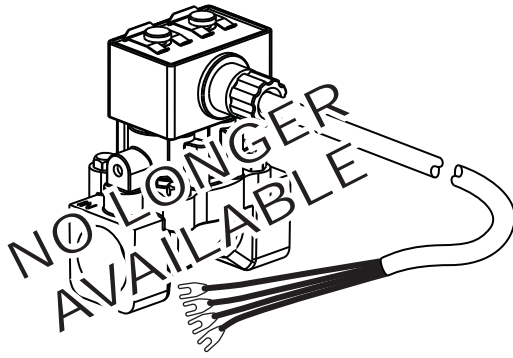
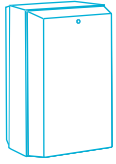
		Non-Ultra High Flow Models	Ultra High Flow Models									
			All				Pump (Suction) Systems		Dispenser (Pressure) Systems			
							Preset; With Hi/Lo Switch	No Preset; With Hi/Lo Switch	Preset; With Hi/Lo Switch	No Preset; With Hi/Lo Switch		
											Not Available	Not Available
Valves	[4/58] Solenoid Valve Asco ¾";	●										
	[4/59] S.Vve. Asco PAXD210D4V mod'd;				●	●	●		●	●		
	[4/60] Solenoid Valve Asco 1" mod'd;		●									
	[4/61] Solenoid Valve Asco 4 Product Spare						●		●			

Table 8. Solenoid Valve Matrix

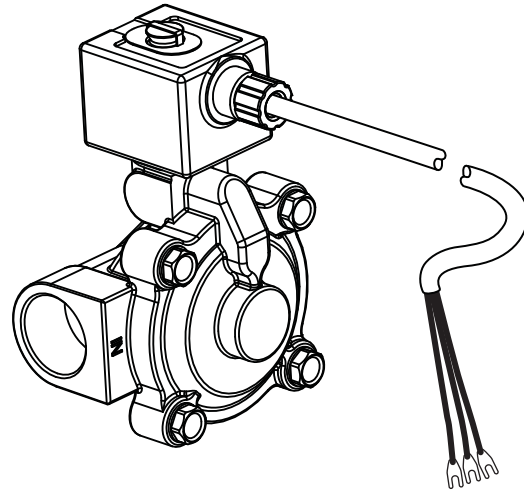
The valves are illustrated in figure 20.

Replacement valves, complete with cables, are available for all types.

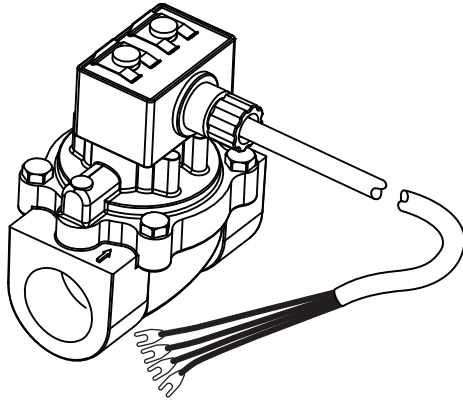
Replacement diaphragm kits are also available.



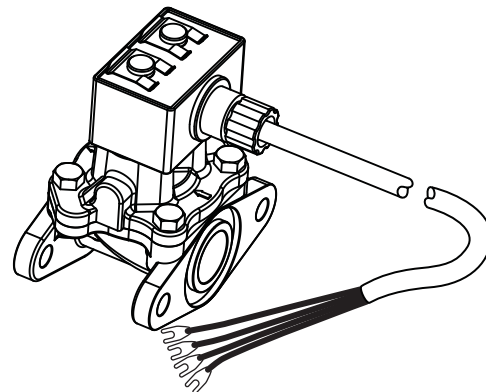
[4/58] Solenoid Valve Asco ¾" Spare



[4/59] Solenoid Valve Asco PAXD210D4V Spare



[4/60] Solenoid Valve Asco 1" Spare



[4/61] Solenoid Valve Asco 4 Product Spare

Figure 20. Solenoid Valves

4.7.1 Parts List - Solenoid Valves

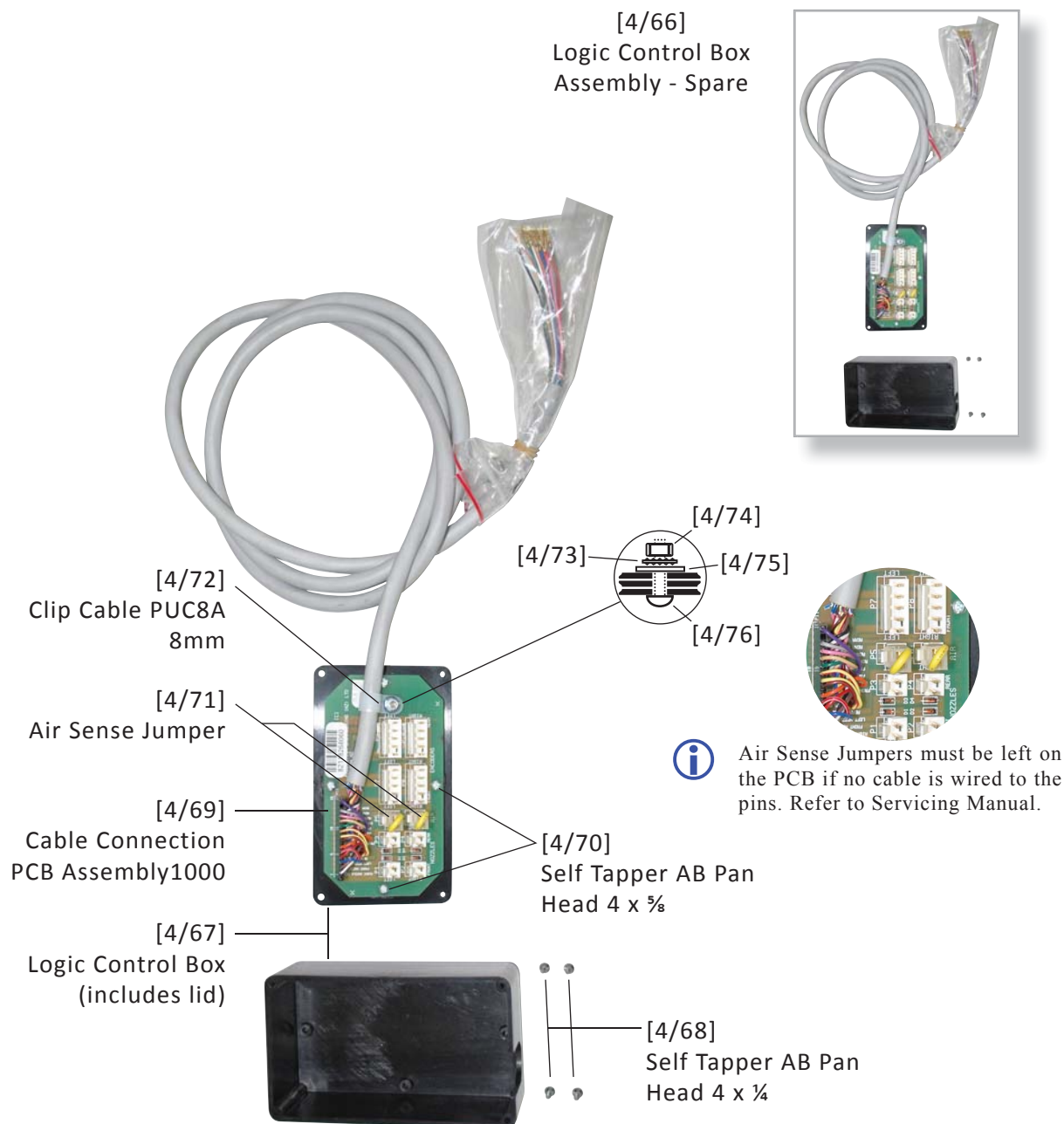
Part Description	Part No.	Page No.	Item No.
Solenoid Valve Asco ¾" Spare (Deleted)	P852530	36	[4/58]
Solenoid Valve Asco PAXD210D4V Spare	P852537	36	[4/59]
Solenoid Valve Asco 1" Spare	P852535	36	[4/60]
Solenoid Valve Asco 4 Product Spare	P852536	36	[4/61]
Asco Diaphragm Kit (¾")	4G24325	36	[4/62]
Asco Diaphragm Kit K302 280V TPL22049 (For PAXD210D4V)	4G24327	36	[4/63]
Asco Diaphragm Kit K312 974 (For Asco 1")	4G24326	36	[4/64]
Asco Diaphragm Kit (4 Prod)	4G24335	36	[4/65]

4.8 Logic Box

The logic box is located inside the main body of a 1000 Series FDS. It contains the Cable Connection PCB (often referred to as the Logic PCB), which is the same in all models.

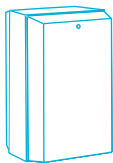
Replacement PCBs are available, along with all fixings and the complete logic box assembly. The cable is included as part of the complete logic box [4/66] but is also available separately (see section 4.12).

Figure 21. Logic Box and Logic PCB



4.8.1 Parts List - Logic Box

<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
Logic Control Box Assembly - Spare	P83787	37	[4/66]
Logic Control Box	2A83707	37	[4/67]
Self Tapper AB Pan Head 4 x ¼	5D02120	37	[4/68]
Cable Connection PCB Assembly1000	P83821	37	[4/69]
Self Tapper AB Pan Head 4 x ⅝	5D02380	37	[4/70]
Air Sense Jumper	2A87326	37	[4/71]
Clip Cable PUC8A 8mm	4E65005	37	[4/72]
Washer Internal Lock M3	5C00013	37	[4/73]
Nut Full Steel M3 ZP	5B03140	37	[4/74]
Washer Flat Steel M3 x 9mm OD	5C04400	37	[4/75]
Screw Steel M3 x 10 Pan Head	5D00550	37	[4/76]



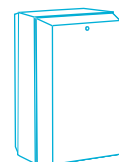
4.9 Motors

Pump (suction) stacks in current 1000 series models use certified flameproof electric motors which are sealed and must be returned to Gallagher for service or repair.

Complete replacement motors are available, including the integral cable.



Earlier 1000 series modules were fitted with either Rael or Brook-Crompton motors. The mountings differ from current standard Elnor-to-Elnor replacements and are included in the Rael-to-Elnor or Brook-Crompton-to-Elnor replacement kits. A range of upgrade kits is available, as detailed in table 2.



Both standard and high speed pulleys are available. The high speed pulley is fitted to high speed modules of non-UHF models and to all UHF models.

The motor is mounted onto the Pump Unit/Air Separator (see section 4.10) via a motor mounting plate. Different plates are used for mounting the motors in UHF variants to allow clearance for the larger diameter pipework. These plates are illustrated in figure 24.

On high speed modules, the motor is mounted so as to reduce the distance between the motor and pump unit pulleys, enabling the same belt to be used on all pump (suction) modules. Replacement belts are available. See figure 25 for full details of the motor mounting.

<i>Item No.</i>	<i>Part No.</i>	<i>Replaces</i>
[4/78A]	P8210358B	i) any Standard Speed Rael motor ii) any Standard speed Brook-Crompton motor used in singles and duals.
[4/78B]	P8210351B	any Standard Speed Brook Crompton motor used in duos and quads
[4/78C]	P821035HS	any High Speed Real or Brook-Crompton motor in a 1000 Series FDS

Table 9. Motor Upgrade Kits

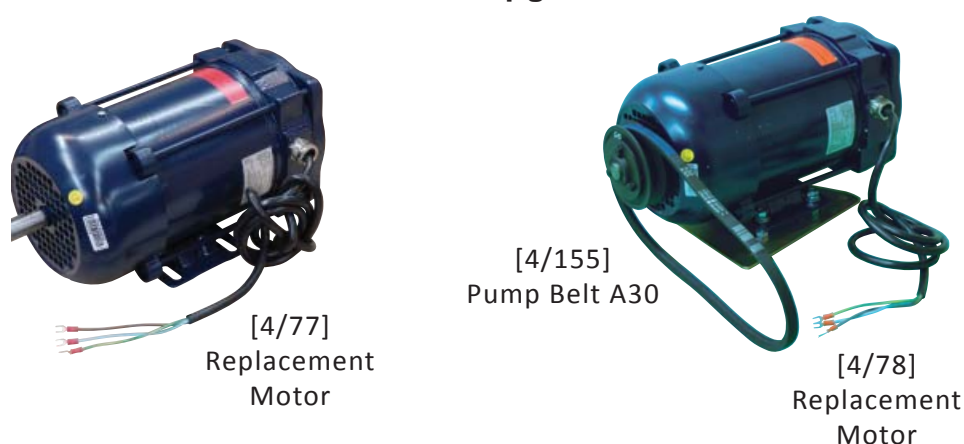


Figure 22. Elnor Motor - Spares and Replacements



The Pump Belt, in addition to being supplied with replacement motor 4/78, is also available as a separate spare part item (see **Parts List - Pump Unit/Air Separator**, section 4.10).

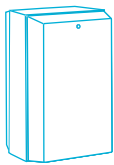


Figure 23. Motor Pulleys

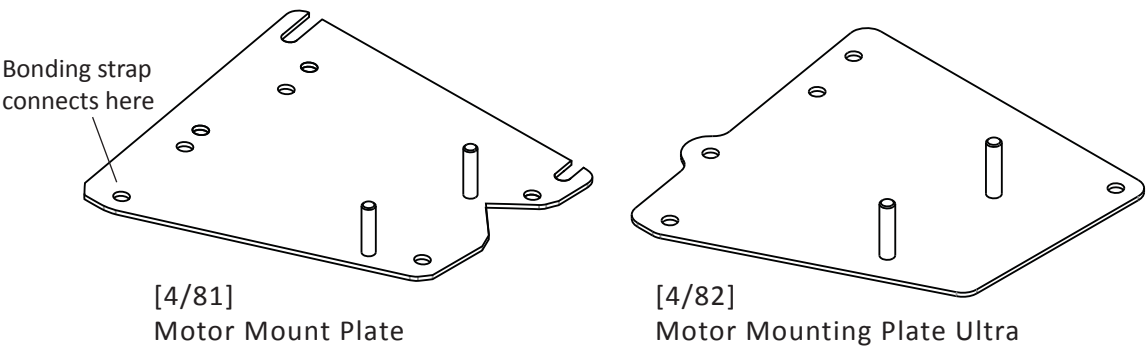


Figure 24. Motor Mounting Plates

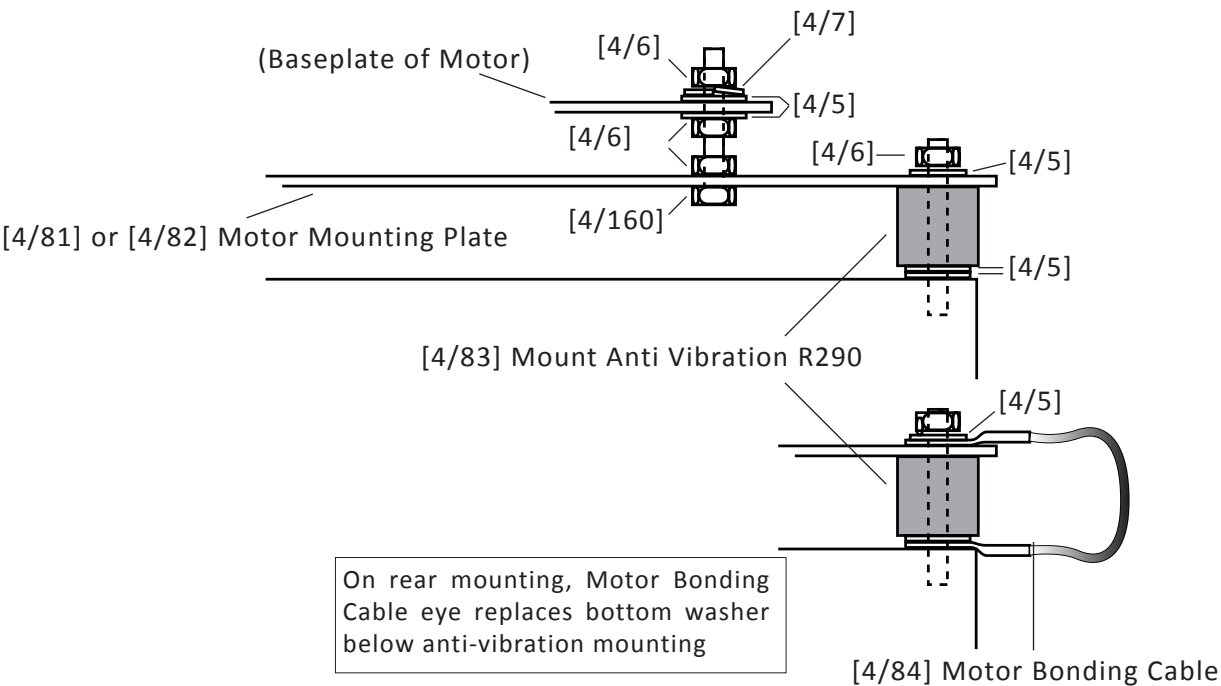
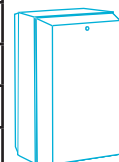


Figure 25. Motor mounting Fixings

4.9.1 Parts List - Motors

Part Description	Part No.	Page No.	Item No.
Motor Elnor Standard Spare	P821035	39	[4/77]
Motor Elnor Standard Spare (See table 2)	P8210358B	39	[4/78A]
Motor Elnor Standard Spare (See table 2)	P8210351B	39	[4/78B]
Motor Elnor Standard Spare (See table 2)	P821035HS	39	[4/78C]
Motor Pulley - standard	2A92640	40	[4/79]
Motor Pulley - high speed	2A92641	40	[4/80]
Motor Mount Plate	4G94539	40	[4/81]
Motor Mounting Plate Ultra	4G83928	40	[4/82]
Mount Anti Vibration R290	4G29920	40	[4/83]
Motor Bonding Cable	4G87358	40	[4/84]
Setscrew M8 x 45mm ZP	5D00930	40	[4/85]
Pump Belt A30	4G23850	39	[4/155]
Washer Flat M8	5C04440	40	[4/5]
Nut Full Steel M8 ZP	5B03240	40	[4/6]
Washer Spring M8	5C04210	40	[4/7]
Setscrew M8 x 35mm ZP	5D00130	44	[4/160]



4.10 Pump Units / Air Separators

Fully assembled replacement pump units (excluding belts and pulleys) are available [4/158], along with spare parts as listed. Replacement belts and pulleys are also available.

Earlier 1000 series diesel models employed separate Air Sense equipment, which is now obsolete.

Air Sense apparatus can be bypassed should the necessity arise, as explained in the following extract from Gallagher Product Change Notice KN10148:

Due to the exceptional performance of the Tatsuno Pump Unit/Air Separator currently used in Gallagher pumps, NMI have ruled the air sense device is no longer a requirement on diesel modules. This is because the Pump Unit/Air Separator is very efficient at removing any air and exceeds all NMI requirements. We envisage the removal of the external air sense will result in a lower cost of ownership as the simplified diesel modules will have reduced maintenance costs.

Pumps from the following serial numbers onwards will be made without the Air Sense venturi valve and circuit.

Multipec2 9000 series P074000 (except for P074005, P074006, P074007)

Ceepec 1000 series D073000

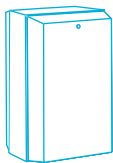
Gallagher have been using this design of Tatsuno Pump Unit/Air Separator for over 15 years. Any pump that has a Tatsuno Pump unit marked with either "PGS-0257 or FP-1001" can have Air Sense disabled if problems are encountered with air sense. You can find these model numbers in the casting of the pump unit below the bypass adjustment. To disable Air Sense the air sense circuit needs to be unplugged from the logic board and a jumper put in its place. The jumper part numbers are as follows:

9000 series 4E63290 MINI JUMPER - SHUNT 2W 100mil

8000 & 1000 series 2A87326 AIR SENSE JUMPER

All 9000 and 1000 series pumps have been manufactured with the pump units marked with "PGS-0257 or FP-1001" and can therefore have air sense disabled. Most 8000 series pumps were also made with these pump units, but some early models were not. Therefore in 8000 series the pump unit model needs to be checked before disabling the air sense circuit.

If leaks or other defects arise within the air sense pipework, the system can be removed from the pump unit and the resulting holes stopped using suitable plugs.



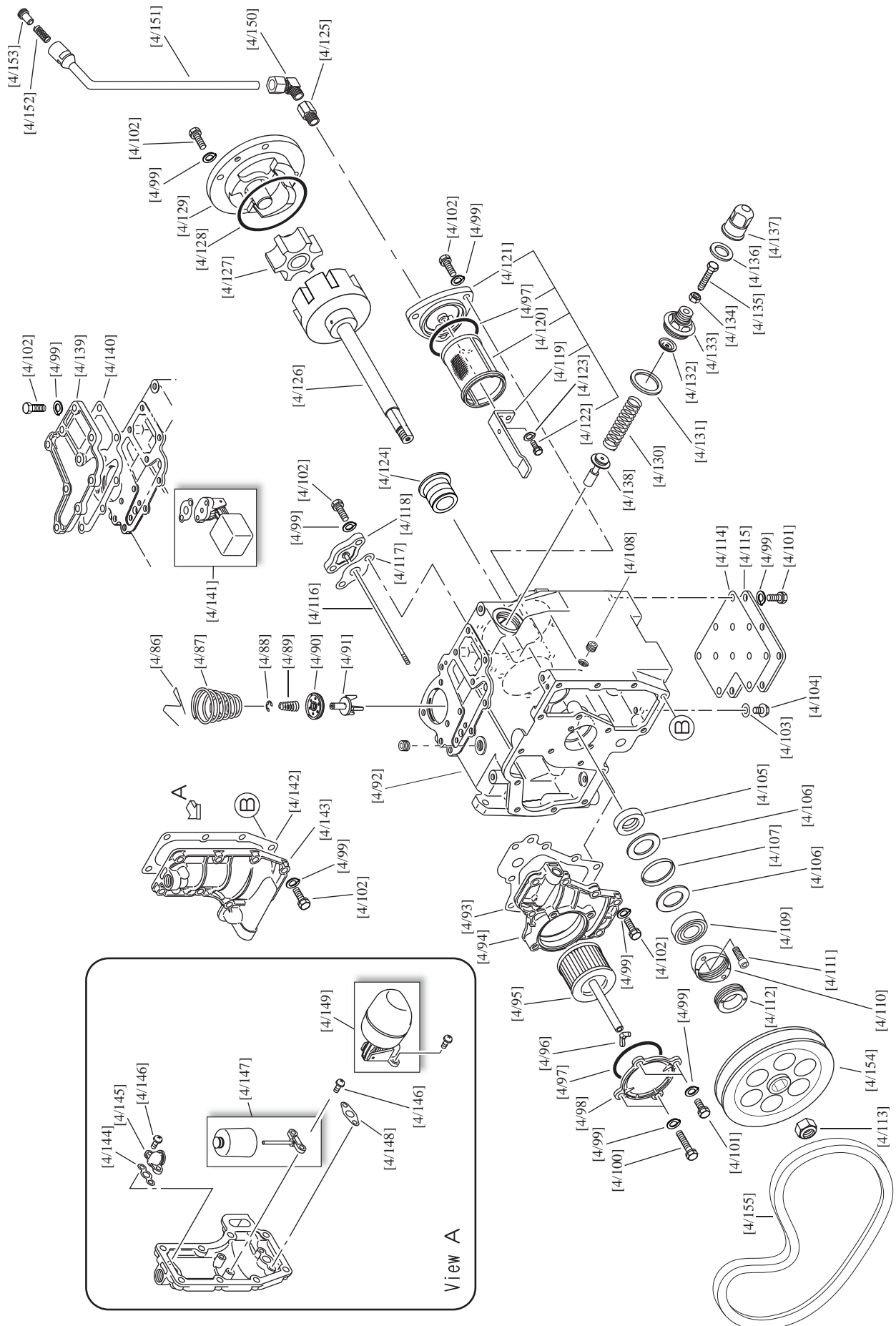


Figure 26. Tatsuno Pump Unit/Air Separator

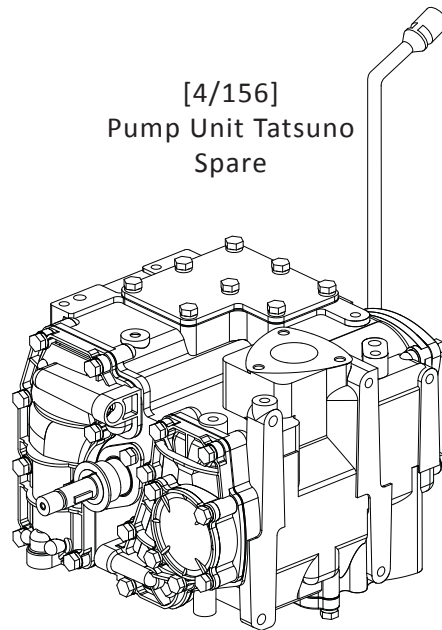
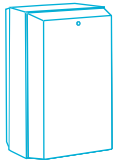


Figure 27. Pump Unit Tatsuno Spare

Where a 1000 Series model incorporates two Pump Units/Air Separators they are fixed together as shown in figure 28.

The Pump Units/Air Separators are attached to the chassis using brackets as shown in figure 29. Note that when two units are fitted, 2 pump unit mounting brackets are used but when only one is fitted one pump unit mounting bracket and one pump unit support bracket are used.

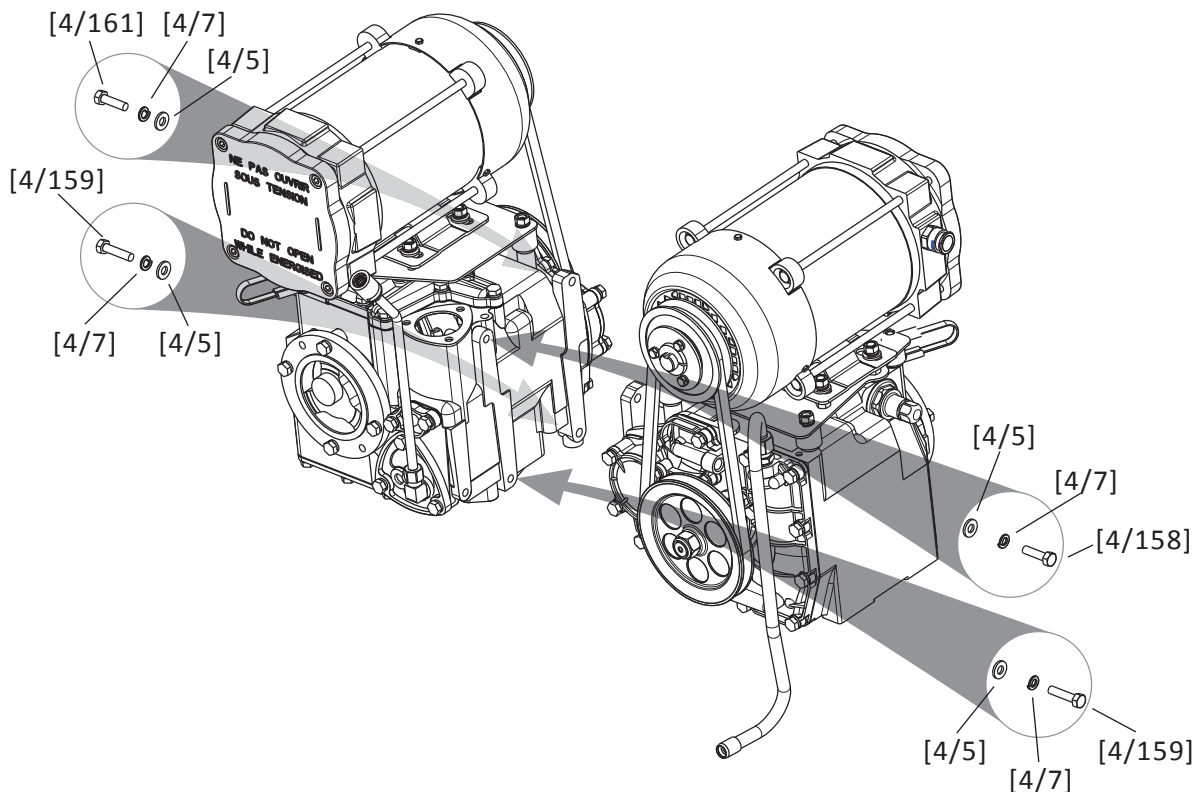


Figure 28. Pump Unit Connection

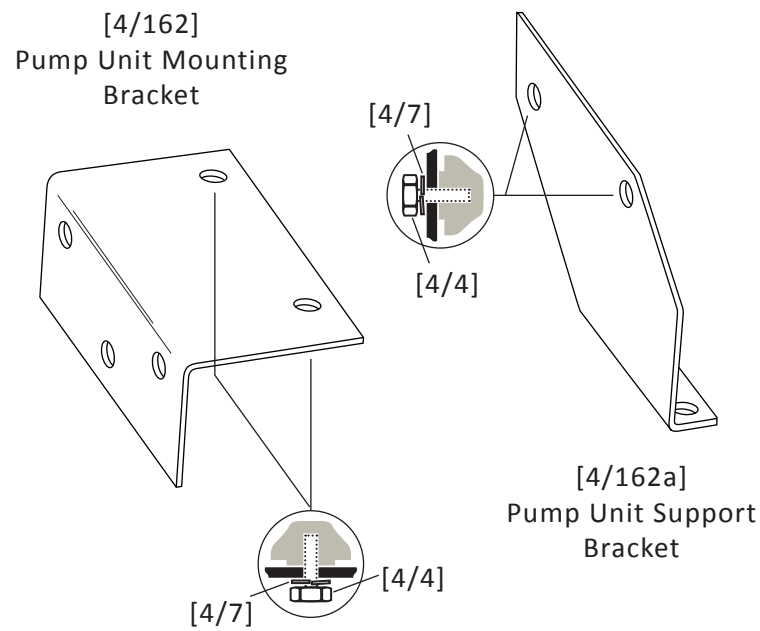
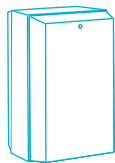


Figure 29. Pump Unit Mounting Brackets

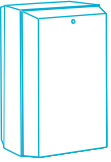
The brackets are connected to the module frames using two sets of M8 x 16 Setscrews, Spring Washers and Nuts.

4.10.1 Parts List - Pump Unit/Air Separator

Part Description	Part No.	Page No.	Item No.
Triangle Ring	4G00193	43	[4/86]
Spring	4G00198	43	[4/87]
Retaining Ring (E Type)	4G00270	43	[4/88]
Spring	4G00208	43	[4/89]
Disc Control Valve Q240A	4G00211	43	[4/90]
Valve Stem	4G00215	43	[4/91]
Body Assembly	4G00099	43	[4/92]
Gasket	4G00100	43	[4/93]
Separator Cover	4G00001	43	[4/94]
Outlet Strainer	4G00192	43	[4/95]
Wing Nut M5	5B00012	43	[4/96]
O-Ring Tatsuno G65	4G00257	43	[4/97]
Strainer Cover	4G00217	43	[4/98]
Spring Washer M8 Tatsuno	5C00017	43	[4/99]
Bolt M8 x 45	5D00310	43	[4/100]
Bolt M8 x 20	5D00312	43	[4/101]
Bolt M8 x 25	5D00313	43	[4/102]
Gasket	4G00307	43	[4/103]
Flange Bolt M8 x 12	5D00314	43	[4/104]
Oil Seal	4G00196	43	[4/105]
Washer PGS 0255 27	5C00001	43	[4/106]
Spacer	Item No.	43	[4/107]
Plug	4G00194	43	[4/108]
Bearing	4G00256	43	[4/109]
Flange	Item No.	43	[4/110]
Hex. Socket Headed Bolt	Item No.	43	[4/111]
Adjuster	Item No.	43	[4/112]
Nut M16	5B03720	43	[4/113]
Gasket	4G00104	43	[4/114]
Lower Cover	4G00308	43	[4/115]
Fixture Shaft	4G00316	43	[4/116]
Gasket	4G00101	43	[4/117]
Cover	4G00317	43	[4/118]
Stopper	4G00318	43	[4/119]
Inlet Strainer	P00209	43	[4/120]
Strainer Cover	4G00319	43	[4/121]
Bolt M6 x 15	5D00317	43	[4/122]
Spring Washer M6	5C00018	43	[4/123]
Bush	Item No.	43	[4/124]
Elbow Extn M/F 1/4 Inch BSP Adaptor	4G23911	43	[4/125]
Wheel Assembly	4G00201	43	[4/126]



Part Description	Part No.	Page No.	Item No.
Pinion	4G00203	43	[4/127]
O-Ring Tatsuno G95	4G00247	43	[4/128]
Pump Cover Assembly	4G00205	43	[4/129]
By-Pass Valve Spring	4G00207	43	[4/130]
Gasket	4G00328	43	[4/131]
Spring Seat	4G00222	43	[4/132]
Plug	4E00700	43	[4/133]
Nut M8	5B00002	43	[4/134]
Adjusting Bolt	4G00223	43	[4/135]
Gasket	4G00110	43	[4/136]
Cap	4G00594	43	[4/137]
By-Pass Valve	4G00206	43	[4/138]
Cover	4G00214	43	[4/139]
Gasket	4G00107	43	[4/140]
Upper Float Assembly	4G00189	43	[4/141]
Gasket	4G00102	43	[4/142]
Float Cover	4G00197	43	[4/143]
Gasket	4G00106	43	[4/144]
Valve Seat	4G00210	43	[4/145]
Screw C/W Lock Washer	5D00318	43	[4/146]
Overflow Prevention Valve Assembly	4G00482	43	[4/147]
Gasket	4G00103	43	[4/148]
Float Valve Assembly	4G00221	43	[4/149]
Elbow Male 69 x 6 x 4	4G23020	43	[4/150]
Test Valve Assembly ZP	8A87936	43	[4/151]
Test Valve Spring	4G83717	43	[4/152]
Valve	2A87938	43	[4/153]
Pump Pulley	4G20220	43	[4/154]
Pump Belt A30	4G23850	43	[4/155]
Pump Unit Tatsuno Spare	P820075	44	[4/156]
Module Z Bracket	4G87831	44	[4/157]
Module Angle Bracket	4G87543	44	[4/158]
Setscrew M8 x 16 ZP	5D00090	44	[4/159]
Setscrew M8 x 35 ZP	5D00130	44	[4/160]
Setscrew M8 x 30 ZP	5D00120	44	[4/161]
Pump Unit Mounting Bracket	4G83627	45	[4/162]
Pump Unit Support Bracket	4G83628	45	[4/162a]
Washer Flat M8	5C04440	44	[4/5]
Nut Full Steel M8 ZP	5B03240	44	[4/6]
Washer Spring M8	5C04210	44	[4/7]



4.11 Pipework

The hydraulic pipework differs considerably between non-UHF and ultra high flow variants. They are dealt with separately in this section.

Dispensers (pressure-fed models) have a filter at the fuel line inlet, which is also described later in this section.

Non-UHF

The hydraulic pipework inside the body of a non-UHF 1000 Series FDS provides a route for fuel from underground feed pipes to the delivery hoses via a meter and valve(s). In pumping (suction) systems the fuel is first routed through a pump unit/air separator, but this is not present/required in dispensing (pressure) systems.

The hydraulic pipework varies depending on the configuration of the model. In some models the fuel may be routed to two meters from the same pipe. Basic 1000 Series configurations are shown in figure 30.

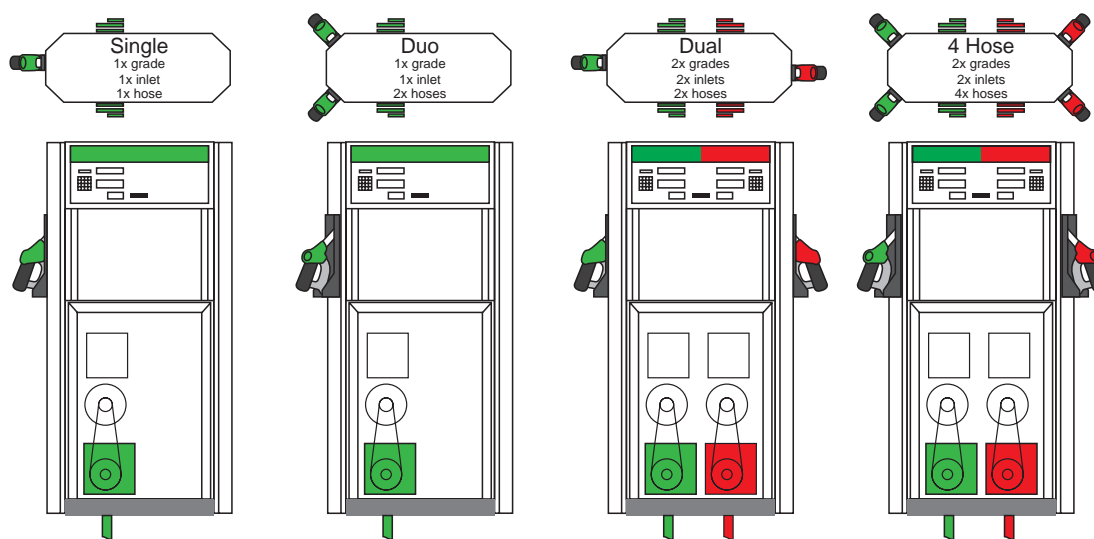


Figure 30. 1000 Series Configurations

The hydraulic pipework is made up of several distinct sections. Figure 31 shows the basic structure and layout of this pipework and the generic terminology used for the individual parts.

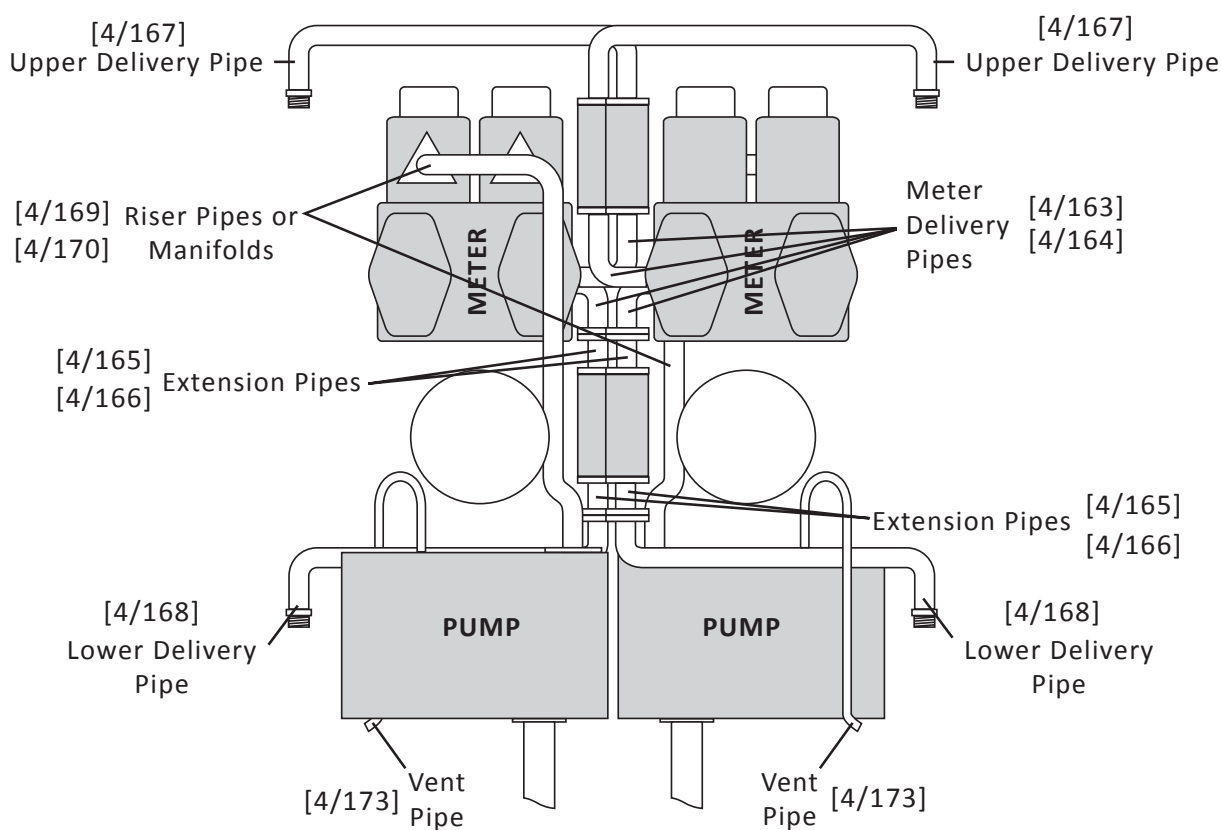


Figure 31. Hydraulic Pipework Overview - 4 hose pump model shown

The following table shows which pipes are required for the different model configurations.

		Model								
		Single	Duo		Dual		4 Hose			
		Single Delivery	Upper Delivery	Lower Delivery	Left Stack	Right Stack	Front Upper	Front Lower	Rear Upper	Rear lower
Pipe Description	Meter Delivery Short [4/163]	•	•		•	•	•		•	
	Meter Delivery Long [4/164]			•				•		•
	Extension Short [4/165]	•	•		••		••			
	Extension Long [4/166]	•	•	••		••		••	••	••
	Upper Delivery [4/167]	•	•		•	•	•		•	
	Lower Delivery [4/168]			•				•		•
	Riser Pipe Assy Pump Single [4/169]	•			•	•				
	Riser Pipe Assy Pump Duo [4/170]		•				•		•	
	Riser Pipe Assy Disp Single [4/171]	•			•	•				
	Riser Pipe Assy Disp Duo [4/172]		•				•		•	
	Vent Pipe Assy - Spare [4/173]	•	•		•	•	•		•	

Table 10. Non-UHF Hydraulic Pipe Matrix

The vent pipe is also located inside the main body of the 1000 Series. It is fixed to the pump unit/air separator by a connector. Spare vent pipe assemblies are available, which include the connector and the gauze at the pipe's outlet. Replacement test Valve Assemblies are also available, these are detailed in section 4.10.

Figure 32 shows a typical arrangement of pipes in a 4 hose model.

Figures 33 to 39 show the individual pipes used throughout the non-UHF range along with details of fixings and gaskets.

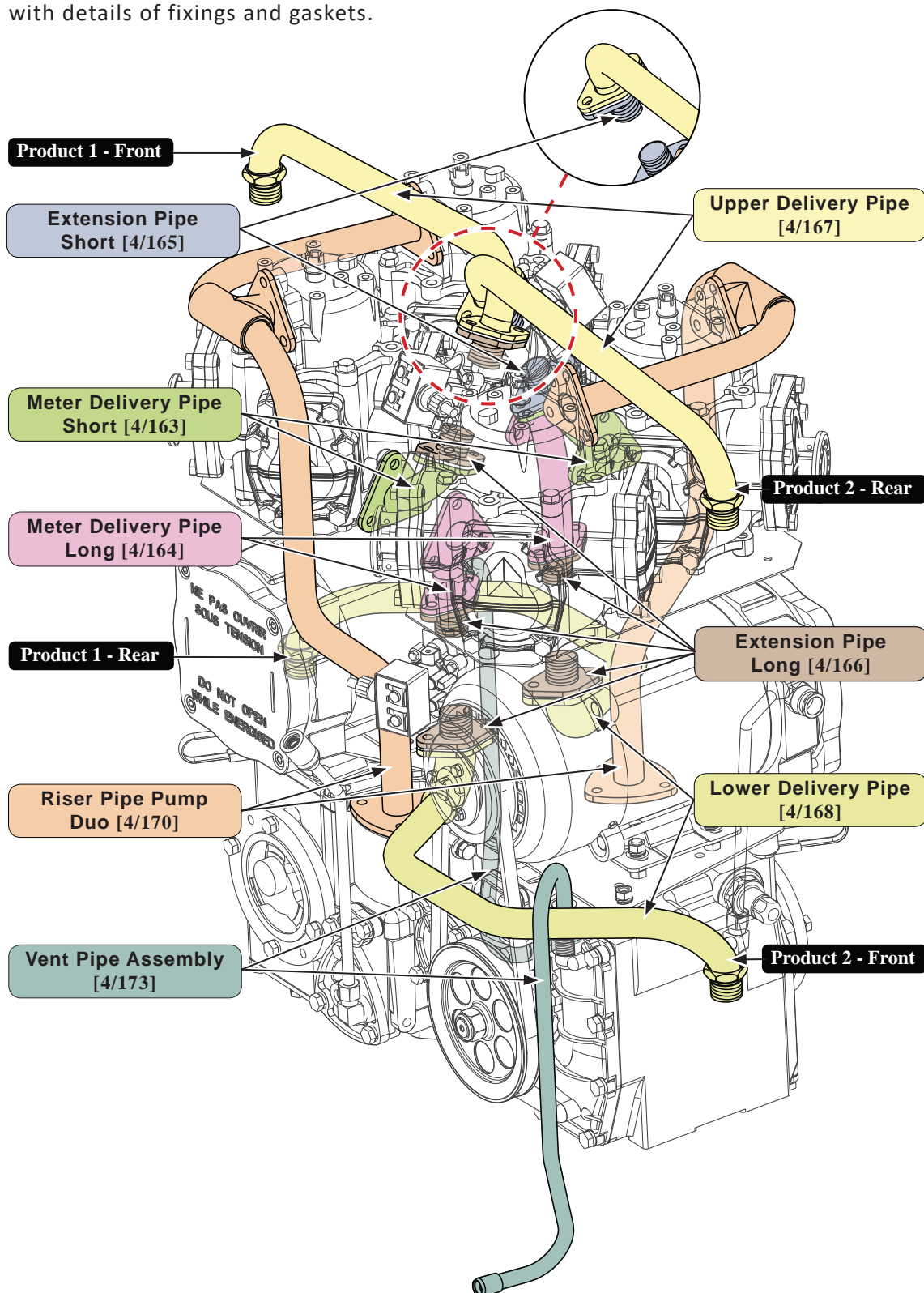


Figure 32. Non UHF Hydraulic Pipework - arrangement (MPD model shown)

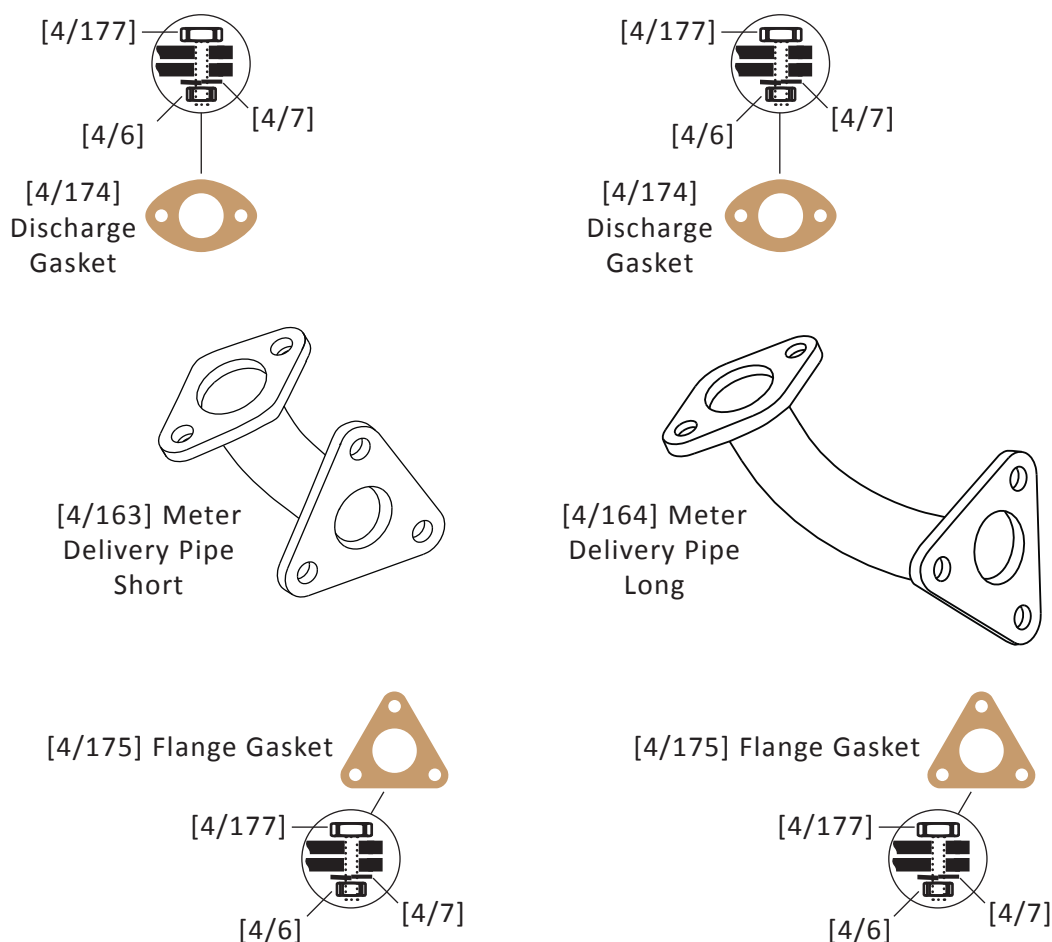


Figure 33. Non-UHF Meter Delivery Pipes

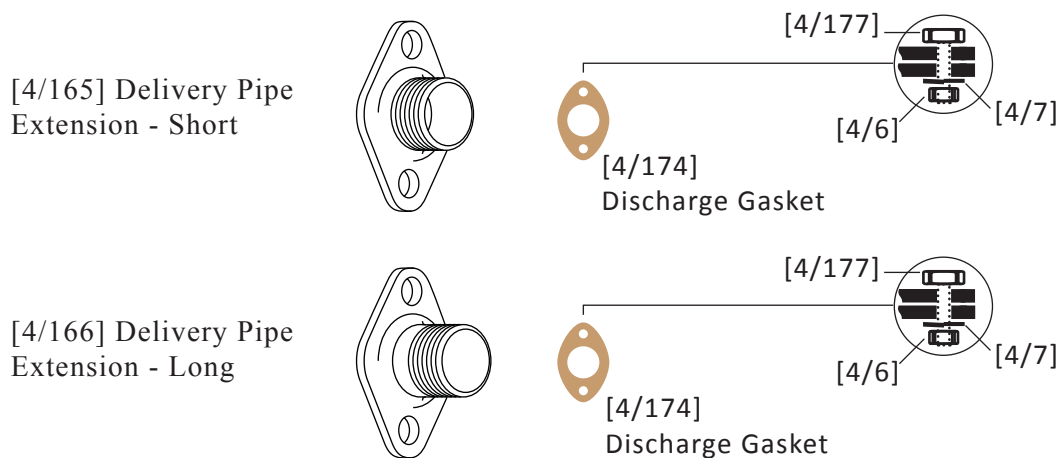


Figure 34. Non-UHF Extension Pipes

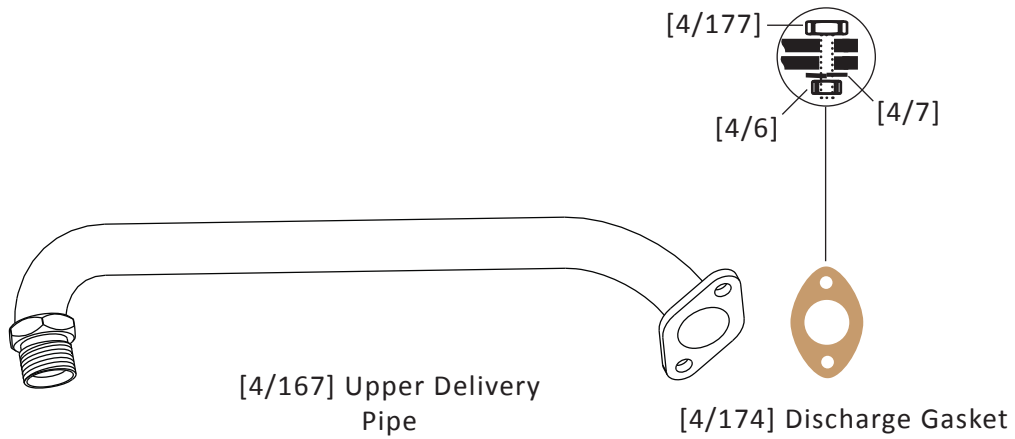
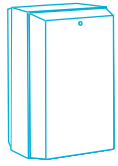


Figure 35. Non-UHF Upper Delivery Pipe

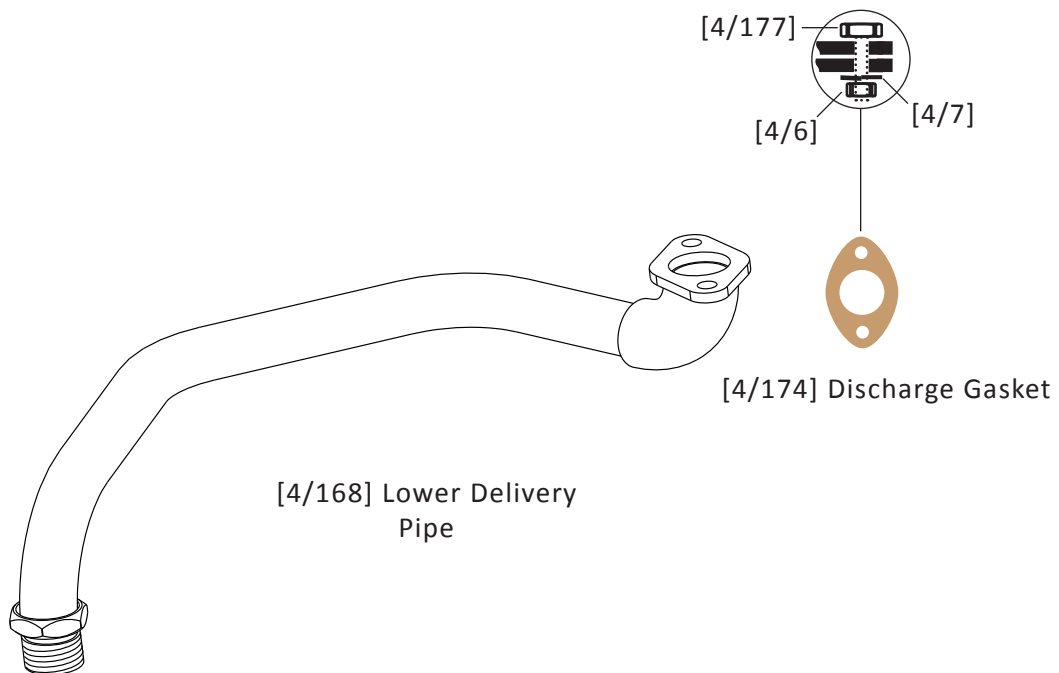


Figure 36. Non-UHF Lower Delivery Pipe



In older 1000 Series models where a Brook Crompton motor is used, lower delivery pipes differ from that shown above. In these models, the alternative Lower Delivery Pipe [4/168BC] should be fitted

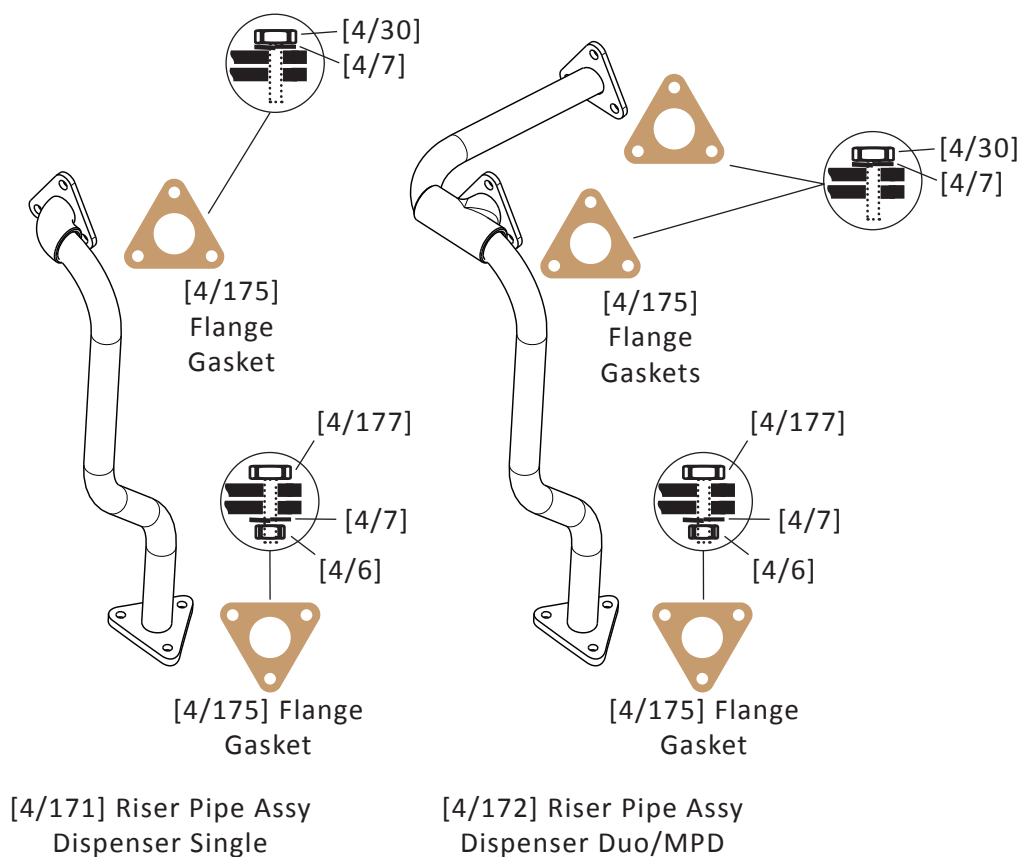
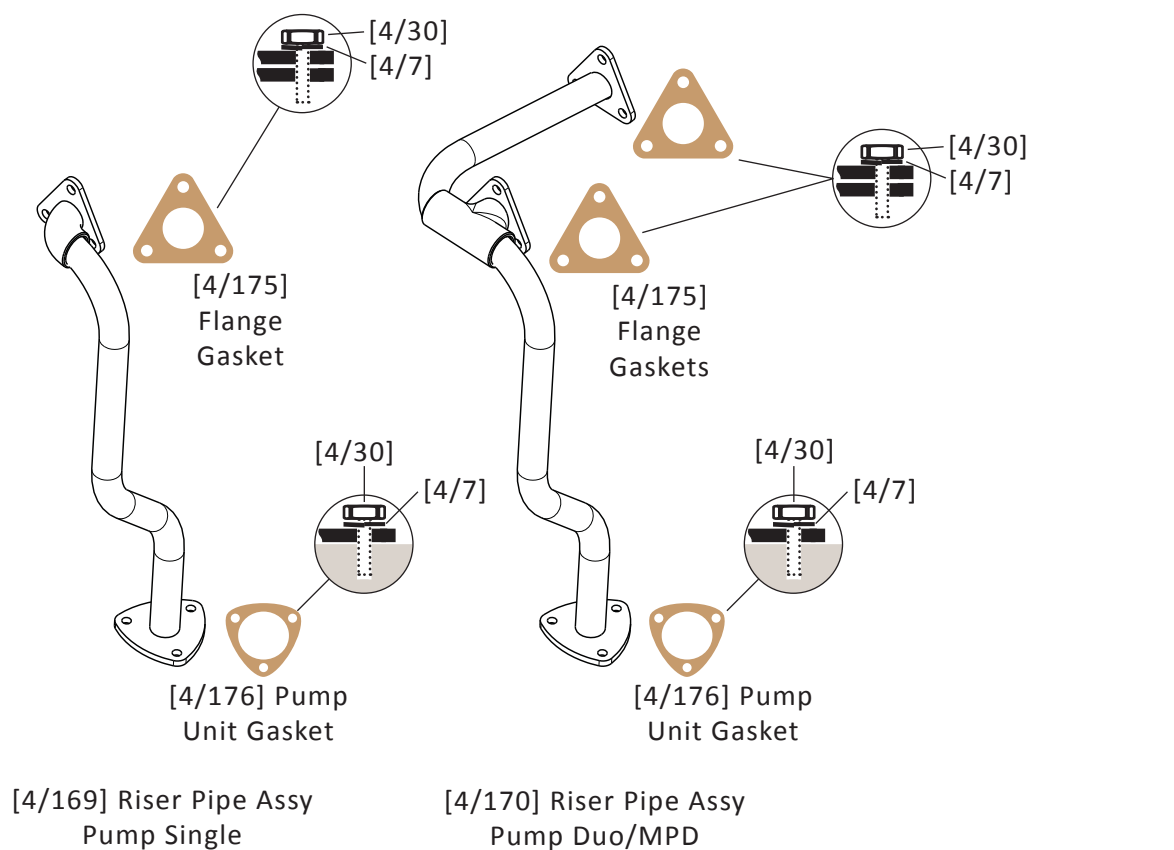
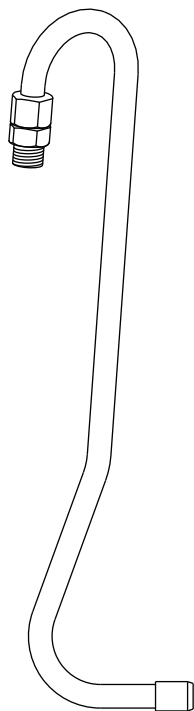
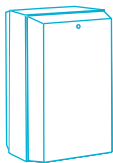


Figure 37. Non-UHF Riser Pipes



[4/173] Vent Pipe
Assembly - spare

Figure 38. Vent Pipe Assembly - spare

[4/178] Filter Cimtek 10 microns
[4/178a] Filter Cimtek 30 microns

[4/179] Filter Assy Cimtek 10 microns
[4/179a] Filter Assy Cimtek 30 microns

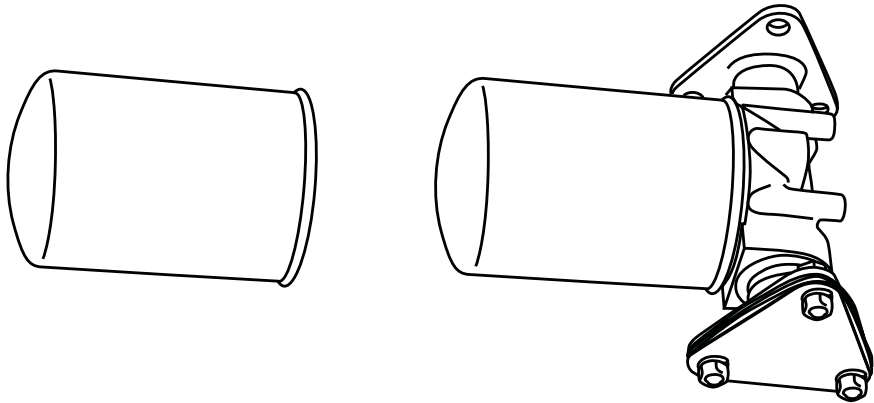


Figure 39. Cimtek Filters and Filter Assemblies (non UHF)

Ultra High Flow

The pipework for UHF variants is different to that used for non-UHF models. However, the route of the pipework is essentially the same in that fluid is taken from the underground feed pipes and passed through pumping units (in suction models) and on to a meter, then out to the delivery hose via one or more solenoid valve(s).

The basic layout for pumping (suction) and dispensing (pressure) models is shown in figures 40 to 42.

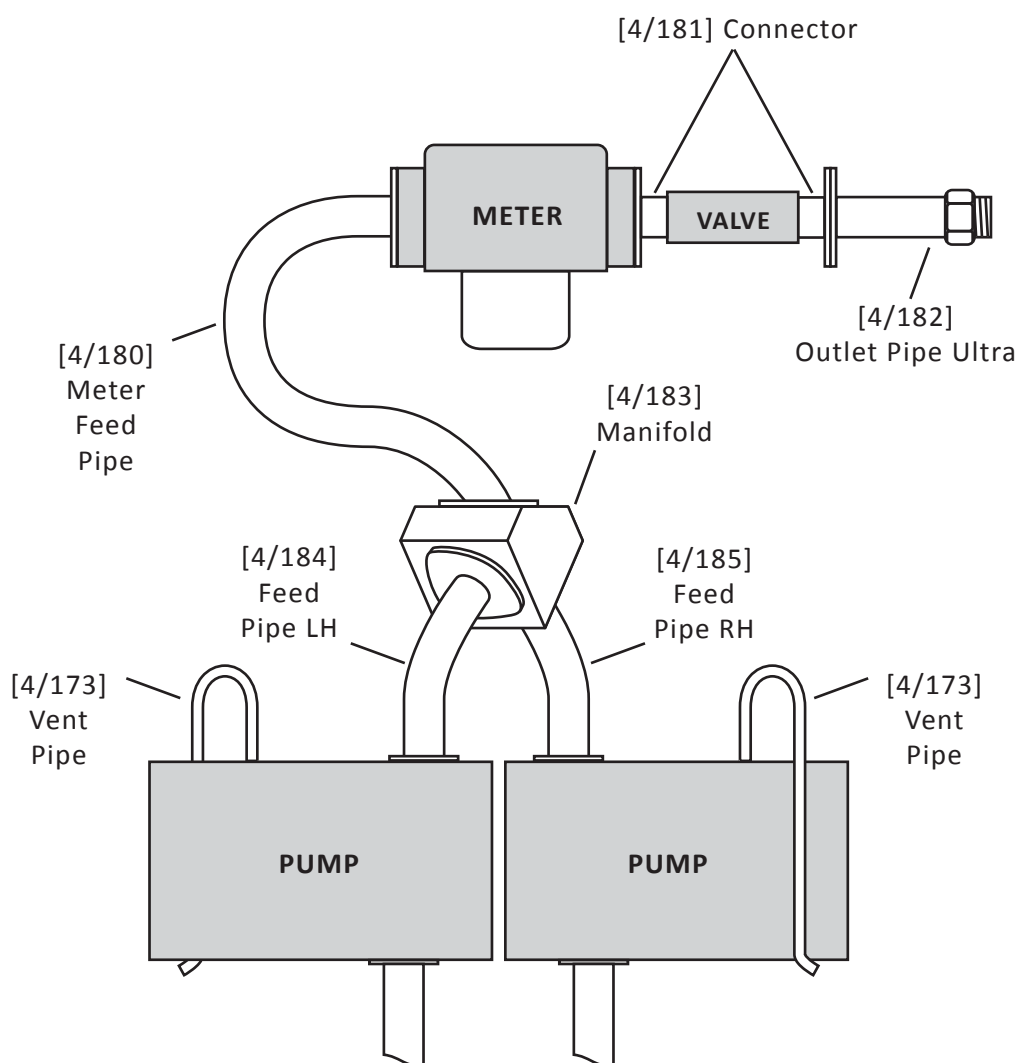


Figure 40. Hydraulic Pipework Overview - UHF Pumping Models

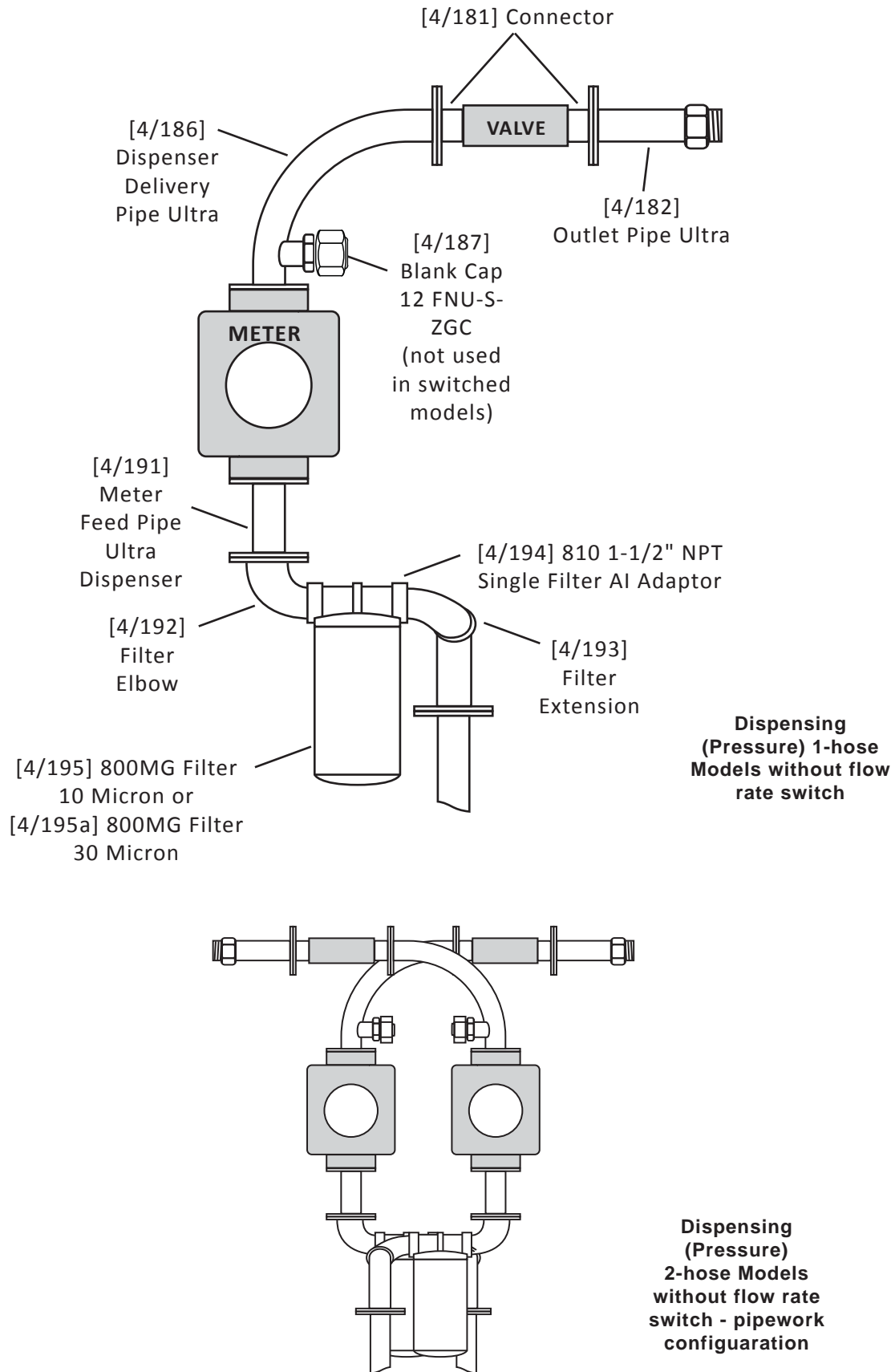


Figure 41. Hydraulic Pipework Overview - UHF Unswitched Dispensers

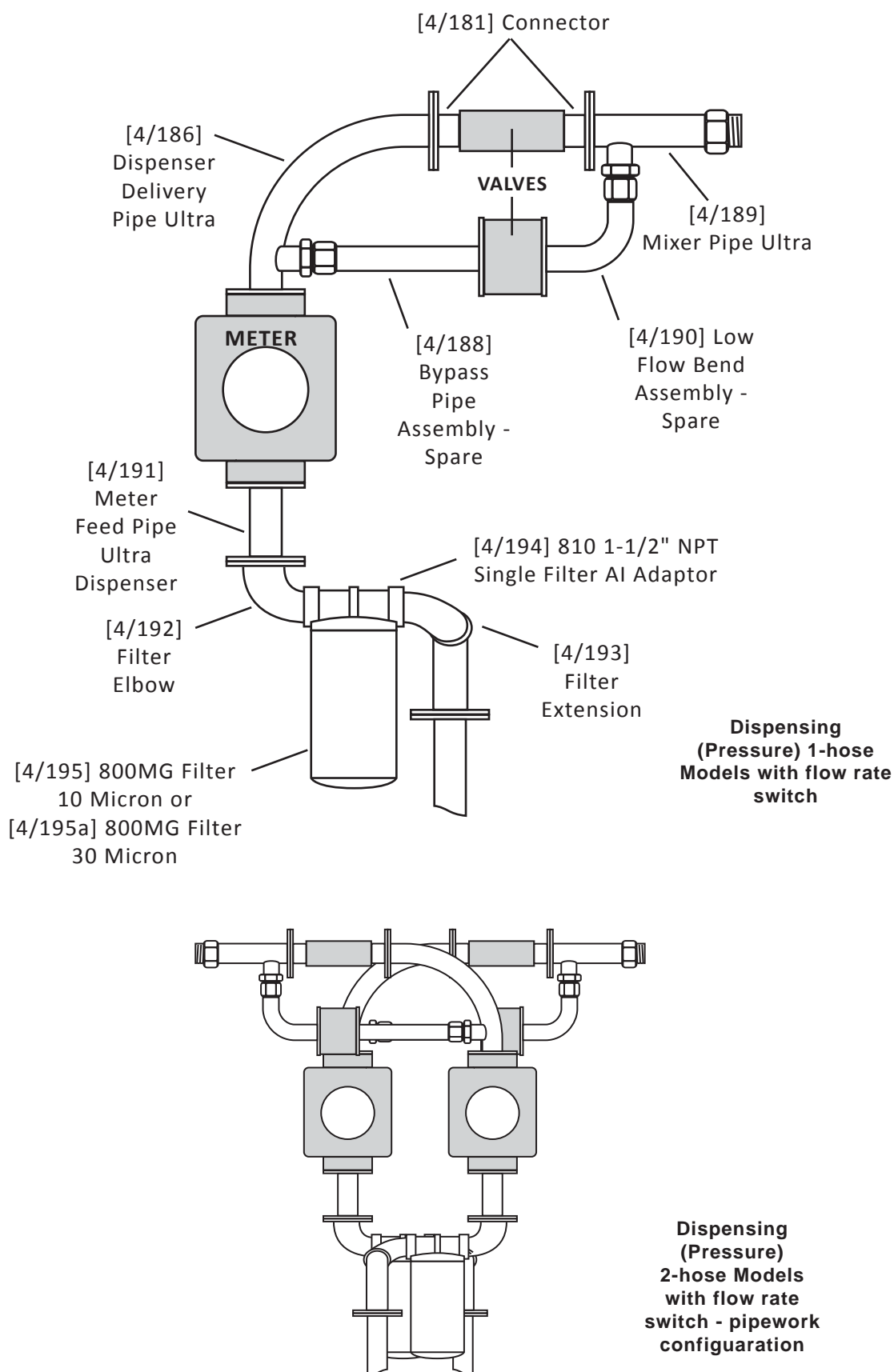


Figure 42. Hydraulic Pipework Overview - UHF Switched Dispensers

Dispensing (pressure) systems are available as single or dual hose models, pumping (suction) systems are only available as single hose models due to the fact that two pumping units are required to achieve the necessary flow rates.

Dispensing (pressure) models do not require a manifold in the pipework, the fluid is simply fed from the underground feed pipe to the meter.

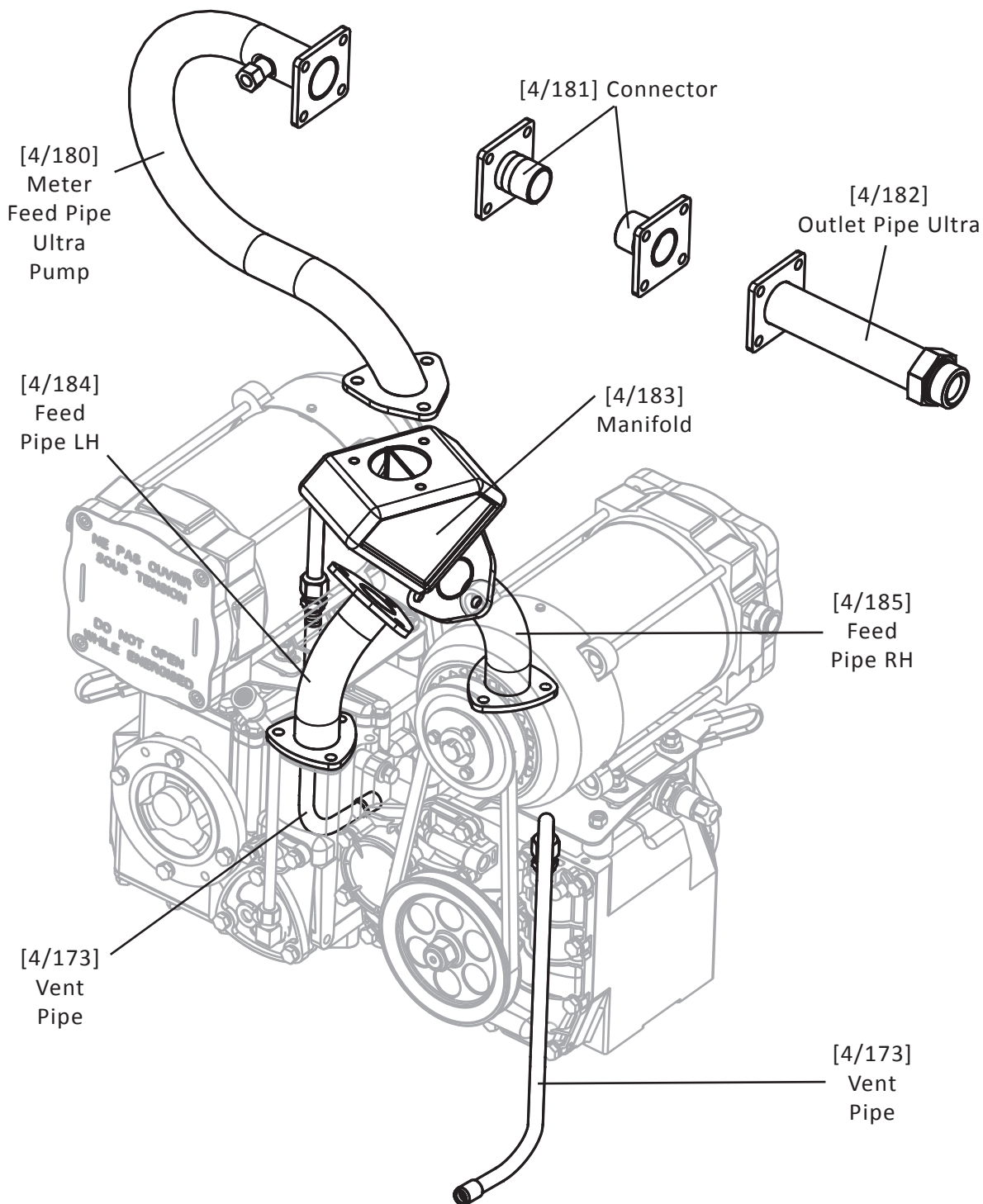


Figure 43. Hydraulic Pipework - UHF pump (suction) model - arrangement

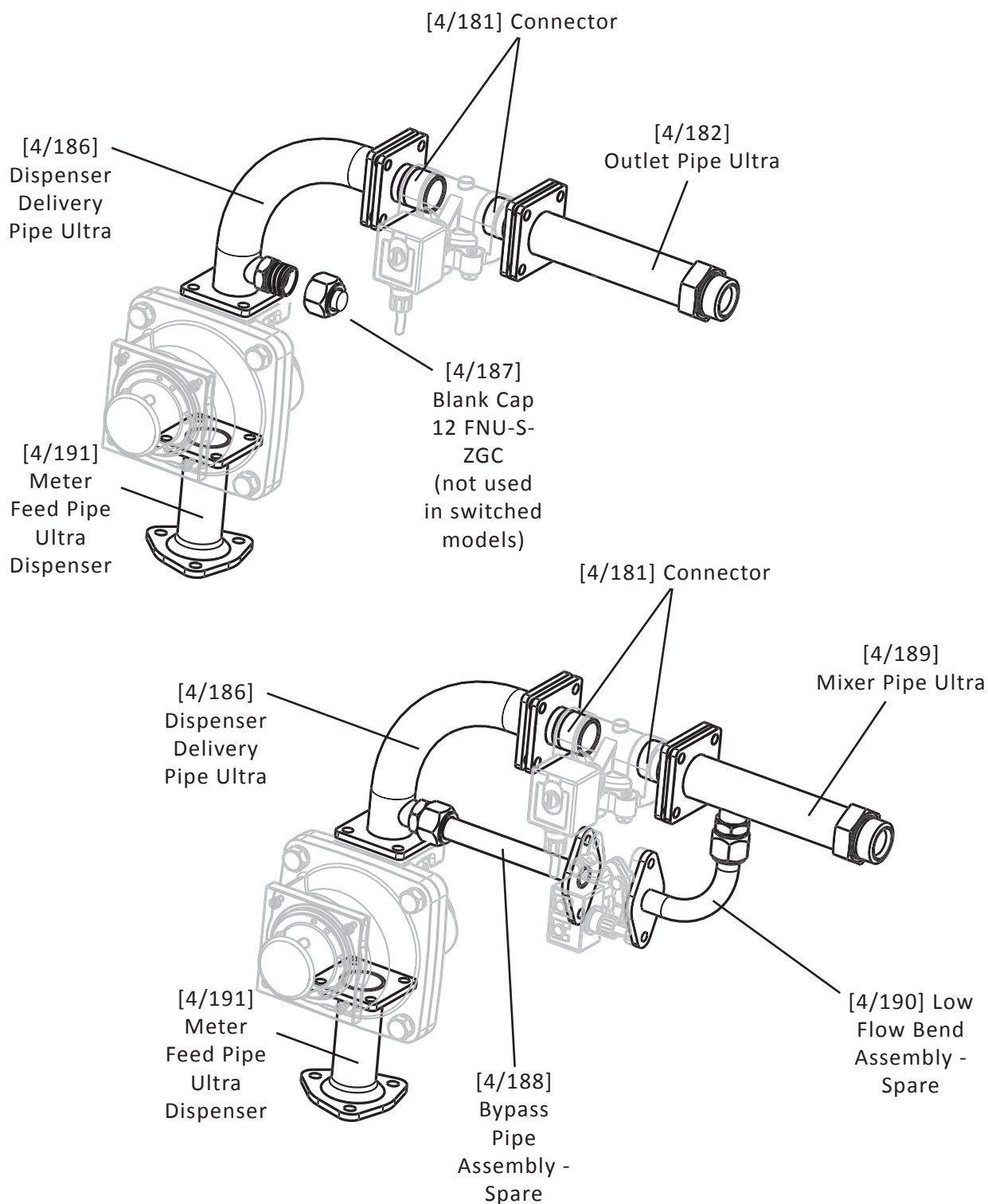


Figure 44. Hydraulic Pipework - UHF dispensers - arrangement (filters not shown)

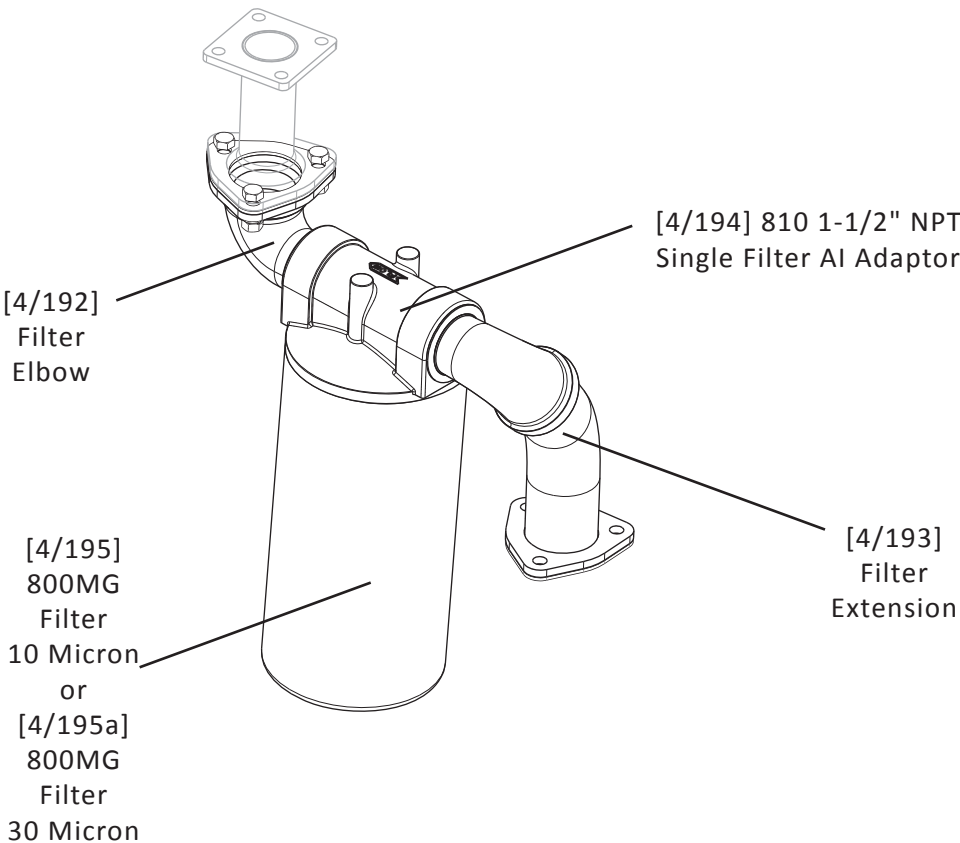


Figure 45. 1000 Series UHF Dispenser Filter

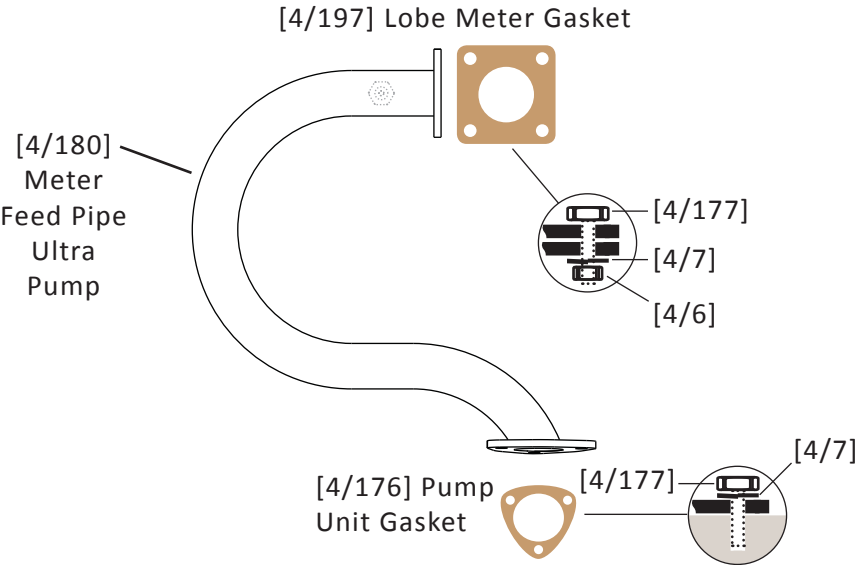


Figure 46. Meter Feed Pipe - UHF Pump

[4/197] Lobe Meter Gasket

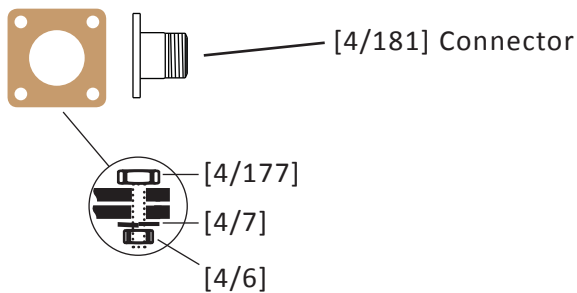


Figure 47. Connector - Ultra

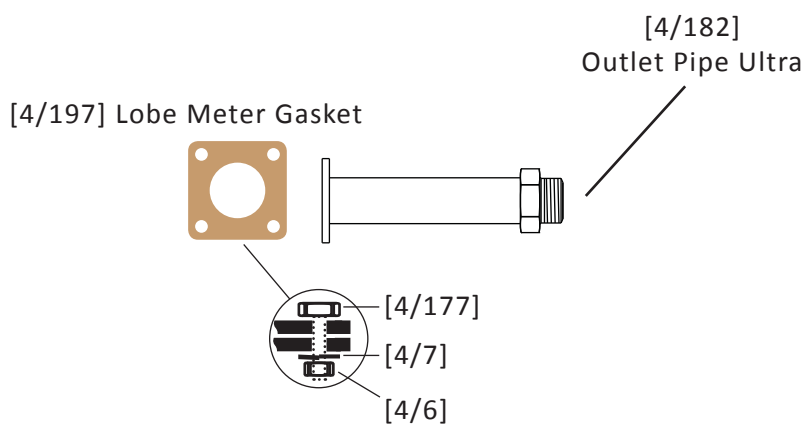


Figure 48. Outlet Pipe - Ultra



The UHF outlet pipe is fixed to the column cover using a plate and gasket. See figure 69 for details.

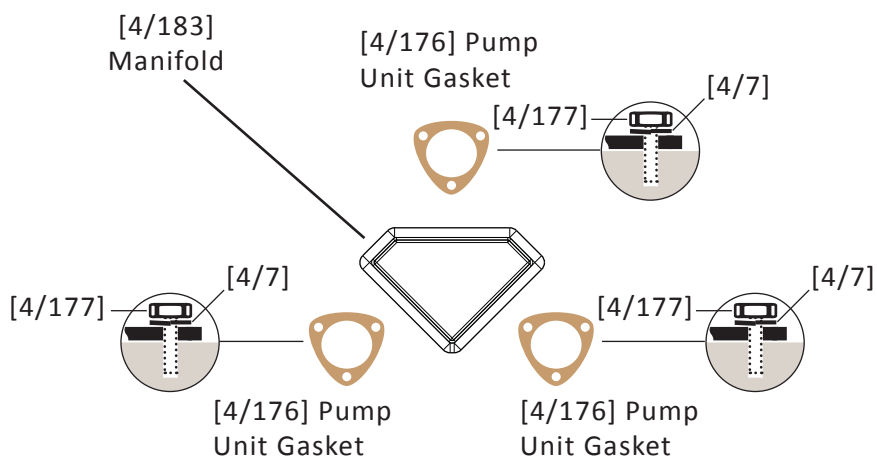


Figure 49. Manifold

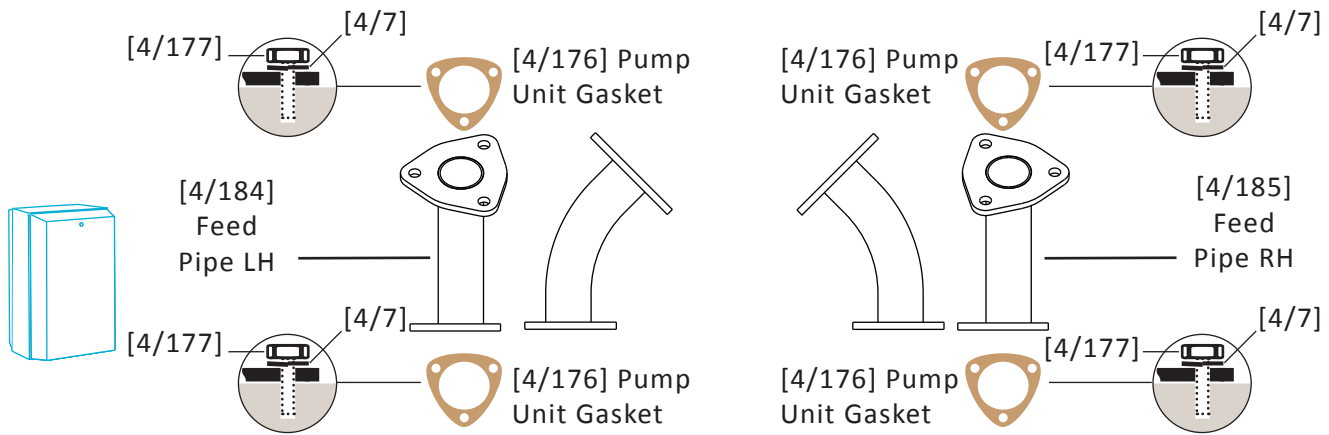


Figure 50. Left and Right Feed Pipes

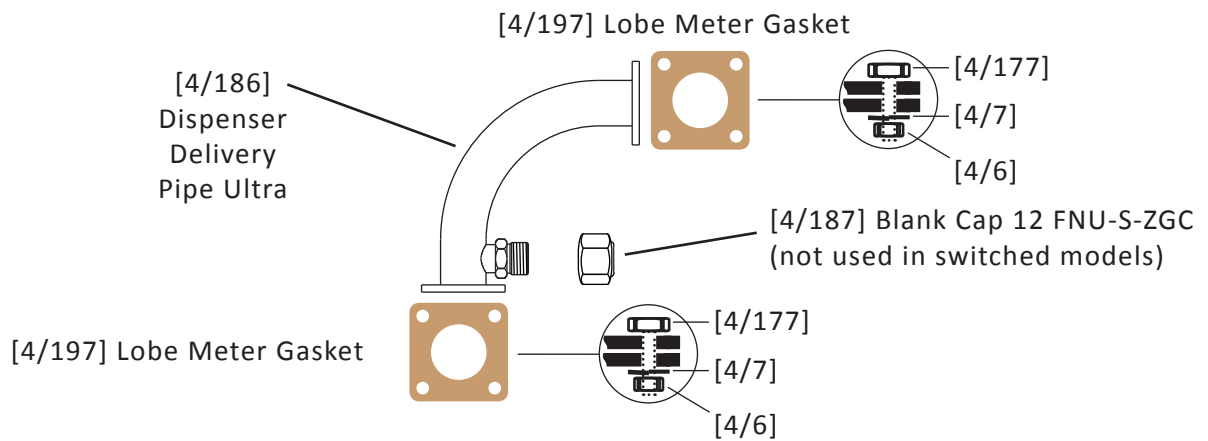


Figure 51. Dispenser Delivery Pipe - Ultra

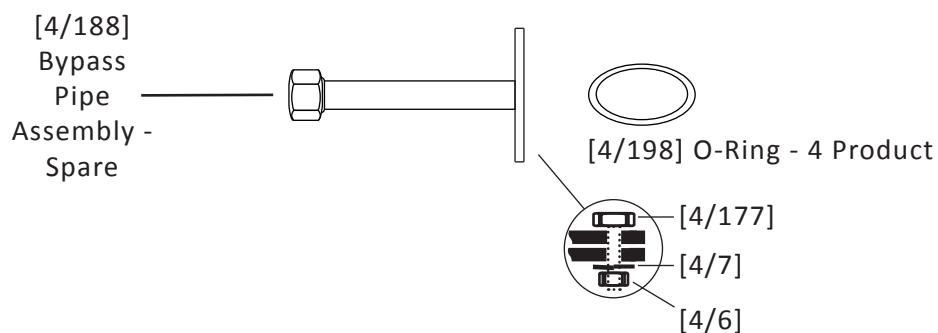


Figure 52. Bypass Pipe Assembly

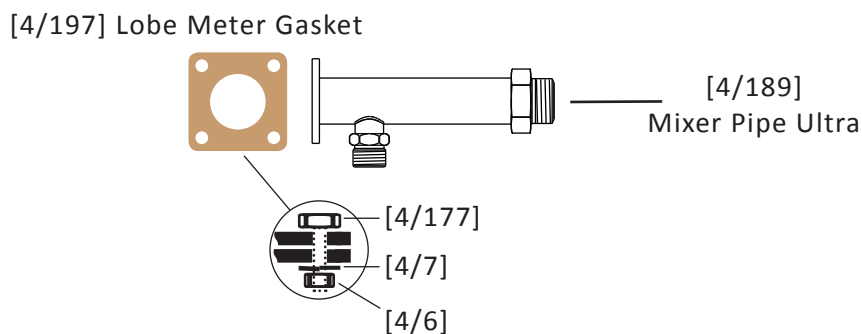


Figure 53. Mixer Pipe - Ultra

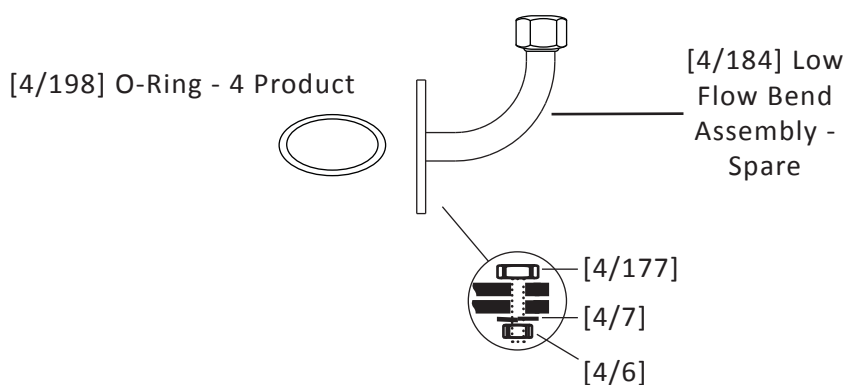


Figure 54. Low Flow Bend Assembly - Spare

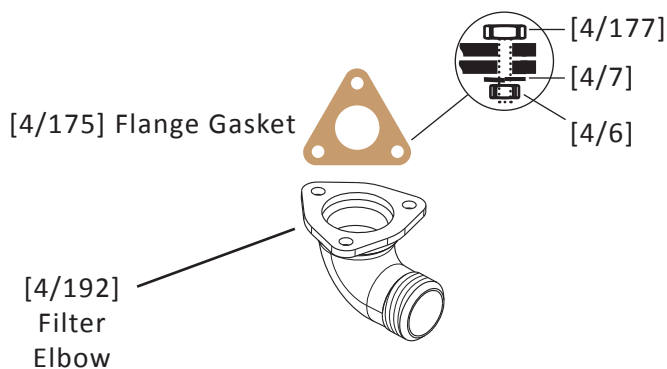


Figure 55. Filter Elbow

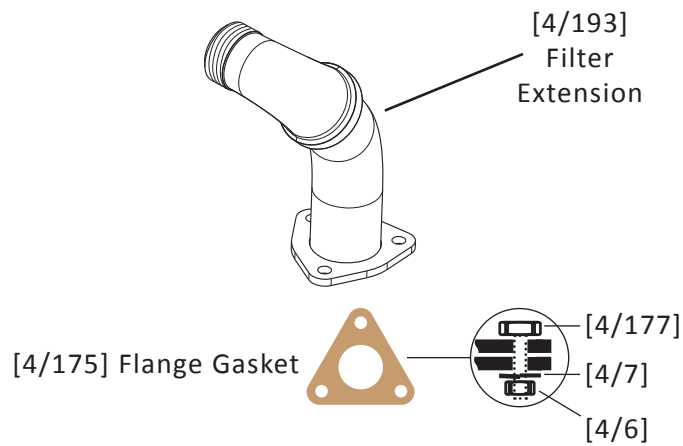
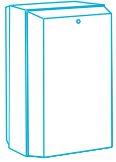
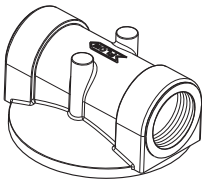


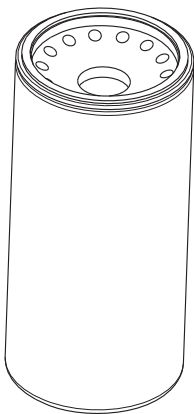
Figure 56. Filter Extension

[4/194] 810 1-1/2" NPT
Single Filter AI Adaptor



[4/196] 800MG High Volume Filter
Assembly 10 Microns

[4/196a] 800MG High Volume Filter
Assembly 30 Microns



[4/195] 810MG
High Volume Filter
10 Microns

[4/195a] 810MG
High Volume Filter
30 Microns

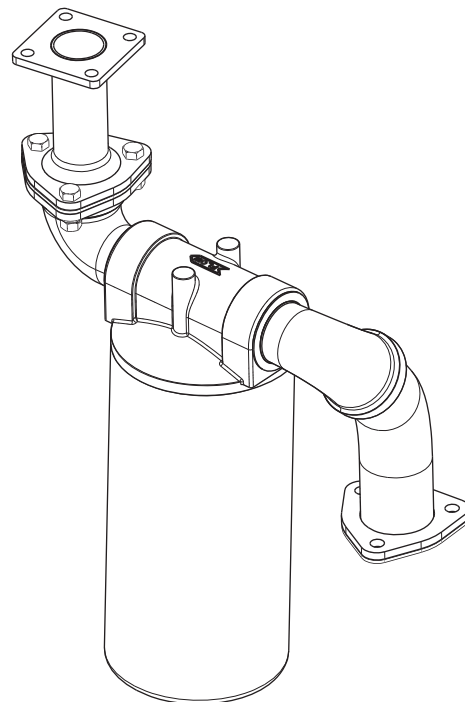


Figure 57. Filter Adaptor, Elements and Assemblies (UHF)

Meter Feed Pipes on dispensing (pressure) systems are held in place with 2 U-Bolts, which come complete with nuts and are fixed to the meter mounting angle (see section 4.4).

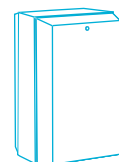
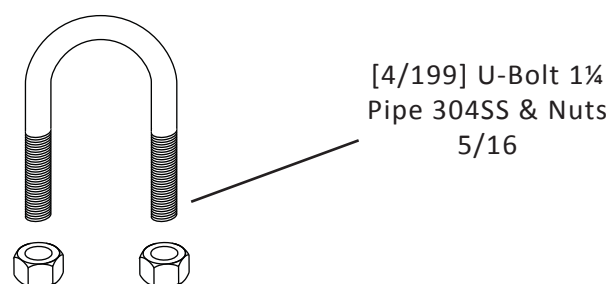
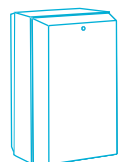


Figure 58. U-Bolt 1 1/4 Pipe 304SS & Nuts 5/16

4.11.1 Parts List - Pipework

<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
Meter Del Pipe Assy Short Zinc Plated	8A83670	49	[4/163]
Meter Del Pipe Assy Long Zinc Plated	8A83672	49	[4/164]
Extension Pipe Assy Short Zinc Plated	8A83689	49	[4/165]
Extension Pipe Assy Long Zinc Plated	8A09011	49	[4/166]
Upper Del Pipe Assy Zinc Plated	8A83687	49	[4/167]
Lower Del Pipe Assy Rael Zinc Plated	8A83802	49	[4/168]
Lower Del Pipe Assy BC Zinc Plated	8A83685	49	[4/168BC]
Riser Pipe Assy Pump Single	8A83683	49	[4/169]
Riser Pipe Assy Pump Duo	8A83680	49	[4/170]
Riser Pipe Assy Disp Single	8A83695	53	[4/171]
Riser Pipe Assy Disp Duo	8A83696	53	[4/172]
Vent Pipe Assy Spare	P83838	54	[4/173]
Discharge Gasket	4G00293	52	[4/174]
Flange Gasket (T) Meter 1	4G85424	53	[4/175]
Pump Unit Gasket	4G87912	53	[4/176]
Setscrew M8 x 25mm	5D00110	53	[4/177]
Filter Microglass Cimtek 10 Microns	4G22095	54	[4/178]
Filter Microglass Cimtek 30 Microns	4G22097	54	[4/178a]
Filter Assembly Cimtek Spare 10 Microns	P88920	54	[4/179]
Filter Assembly Cimtek Spare 30 Microns	P88950	54	[4/179a]
Meter Feed Pipe Weld	8A83913	55	[4/180]
Connector Assy	8A82778	55	[4/181]



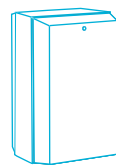
Part Description	Part No.	Page No.	Item No.
Outlet Pipe Ultra	8A83929	55	[4/182]
Manifold	P82750	55	[4/183]
Feed Pipe Weld LH	8A83917	55	[4/184]
Feed Pipe Weld RH	8A83924	55	[4/185]
Dispenser Del Pipe Assy	8A82857	56	[4/186]
1/4 BSP Plug <small>Plug for Flow Meter Tatsuno MP 02515 G</small>	4G00667	56	[4/187]
Bypass Pipe Assy	P83938	57	[4/188]
Mixer Pipe Weld	8A83934	57	[4/189]
Low Flow Bend Weld	8A82873	57	[4/190]
Meter Feed Pipe Assy	8A82770	57	[4/191]
Filter Elbow Weld	8A83882	57	[4/192]
Filter Extension Weld	8A83847	57	[4/193]
810 1-1/2" NPT Single Filter Al Adp.	4G00360	57	[4/194]
800MG High Volume Filter 10 Microns	4G00359	57	[4/195]
800MG High Volume Filter 30 Microns	4G00534	57	[4/195a]
800MG High Volume Filter Assy 10 Microns	P83879	64	[4/196]
800MG High Volume Filter Assy 30 Microns	P83880	64	[4/196a]
Meter Gasket Lobe	4G82768	63	[4/197]
O-Ring 4 Product	4G29634	63	[4/198]
U-Bolt 1¼ Pipe 304SS & Nuts 5/16	5D19910	65	[4/199]
Nut Full Steel M8 ZP	5B03240	60	[4/6]
Washer Spring M8	5C04210	60	[4/7]
Setscrew M8 x 20 ZP	5D00100	53	[4/30]

4.12 Cables

The main body of the 1000 series FDS contains a variety of cables with different functions.

Those housed entirely within the main body include:

- (a) Encoder Cables from the Encoders to the Logic PCB. The Encoder Cables are supplied as part of the Encoders to which they are sealed. See section 4.6;
- (b) Valve Cables from the Valves to the Connector Box (Junction Box). The Valve Cables are supplied as part of the Valves to which they are sealed. See section 4.7;
- (c) Motor Cables (not used in dispensers) from the Motors to the Connector Box (Junction Box). The Motor Cables are supplied as part of the Motors to which they are sealed. See section 4.9.
- (d) Earth Bonding Cables between the Air Separator and the Motor on each pump stack, see figure 63
- (e) Link Wires and an Earth Lead within the Connector Box (Junction Box), see figure 63.



Other cables which run out of the main body, either up the inside of the Columns to the Head or to outside the FDS, include:

- (a) Logic Control Cable from the Logic Box to the Main Processor PCB in the Head. Logic Cables are identical throughout the range with the exception of the UHF dispenser (pressure) model;
- (b) Motor/Valve Mains Control Cable from the Connector Box (Junction Box) to the AC Control PCB in the Head. Motor/Valve Mains Control Cables are identical throughout the range;
- (c) Comms Cable from the Connector Box (Junction Box) to the Main Processor PCB in the Head. Comms Cables are identical throughout the range;
- (d) Float Switch Cable from the sump Float Switch (if fitted) to the Main Processor PCB in the Head. Float Switch Cables are the same throughout the 1000 range with the exception of the Ultra High Flow which do not have them fitted. A Float Switch Cable is fitted even if a Float Switch is not present. This enables a Float Switch to be installed at a later date;
- (e) Mains In (site cabling) to the Connector Box (Junction Box);
- (f) Ultra High Switch Cables from the Logic Box to the UHF Flow Rate Switch(es), if fitted. Note that when a Flow Rate Switch is fitted to stack A, the cable used is identical to an Air Sense Logic Control Cable fitted to some other Gallagher models and may also be referred to as such.



Cables for nozzle switches, which connect to the Logic Box, are shown in the following diagrams but are detailed with the holsters in section 5.4.

The following two illustrations show the arrangement of cables within the body of 4 hose pump and 4 hose dispenser models. Note that some cables may not be required in other non-UHF models.

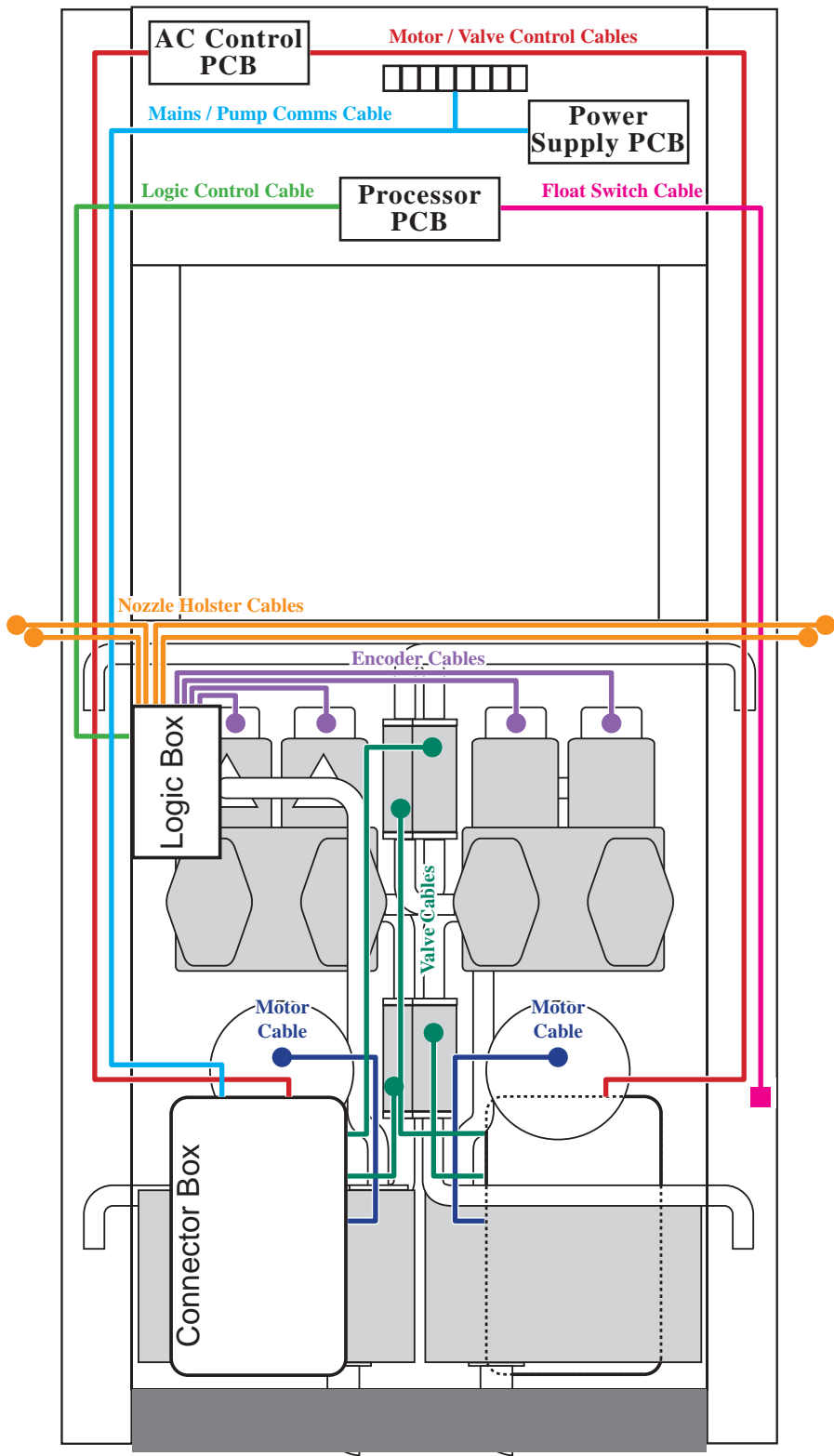
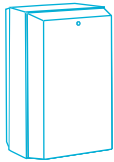


Figure 59. 4 Hose Pump (non-UHF)

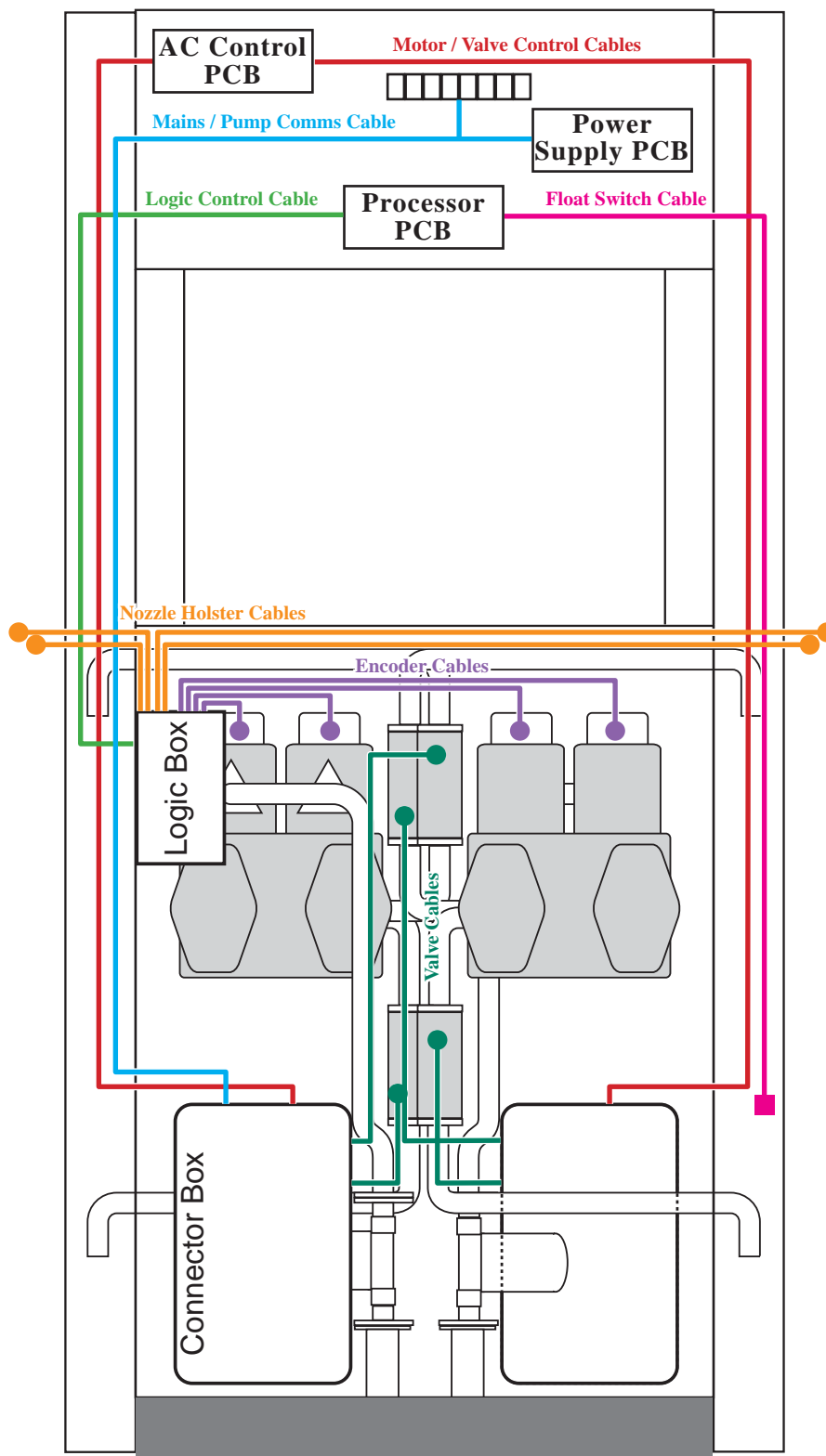


Figure 60. 4 Hose Dispenser (non-UHF)

The following illustrations show the cable layouts within the body of the dual dispenser (pressure) and single pump (suction) Ultra High Flow variants of the 1000 Series range. Note that some cables may not be required in single hose dispensing (pressure) models or models without flow rate switches.

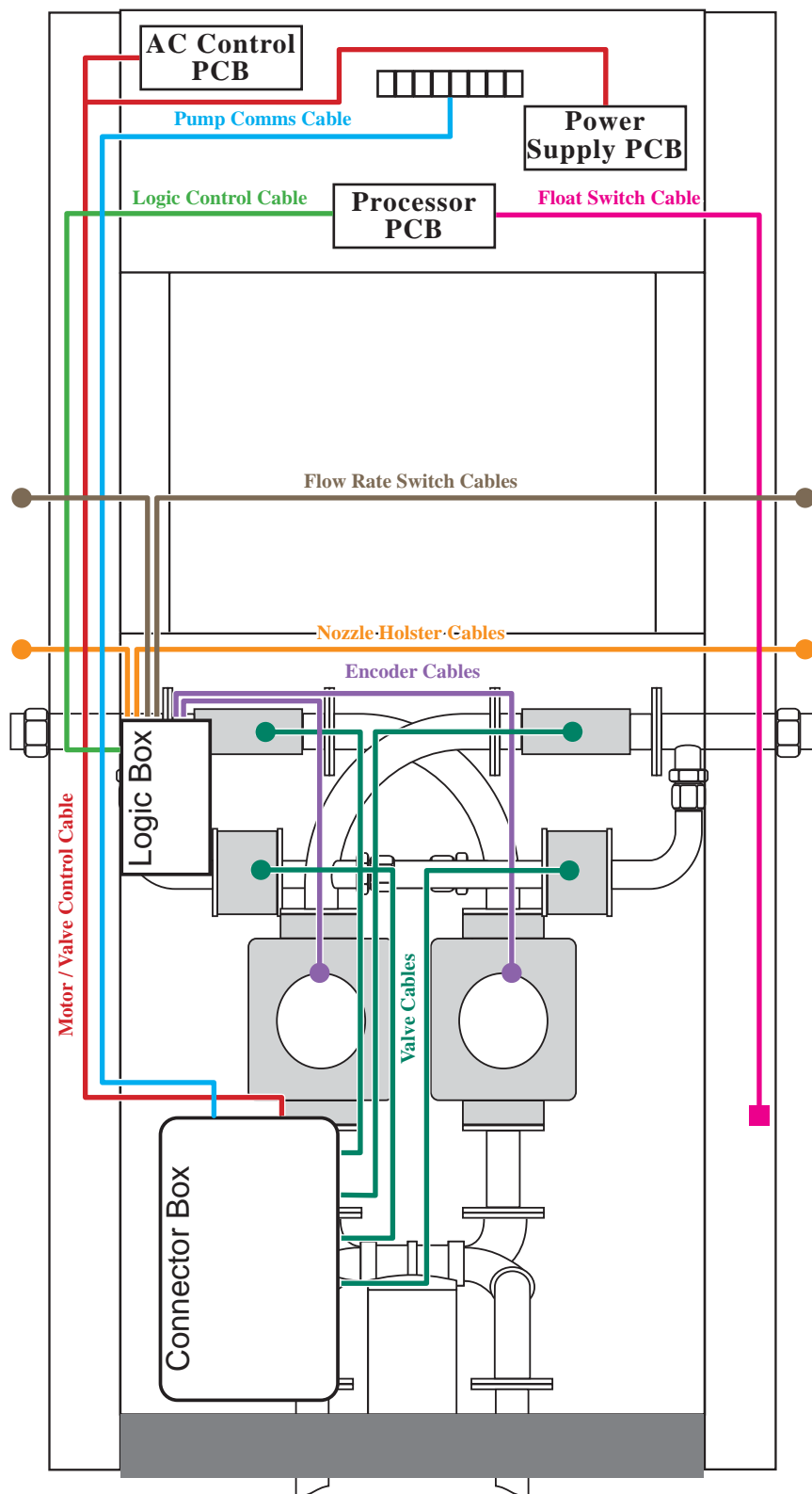
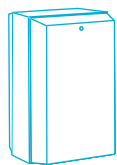


Figure 61. Ultra High Flow Dual Dispenser (Switched)

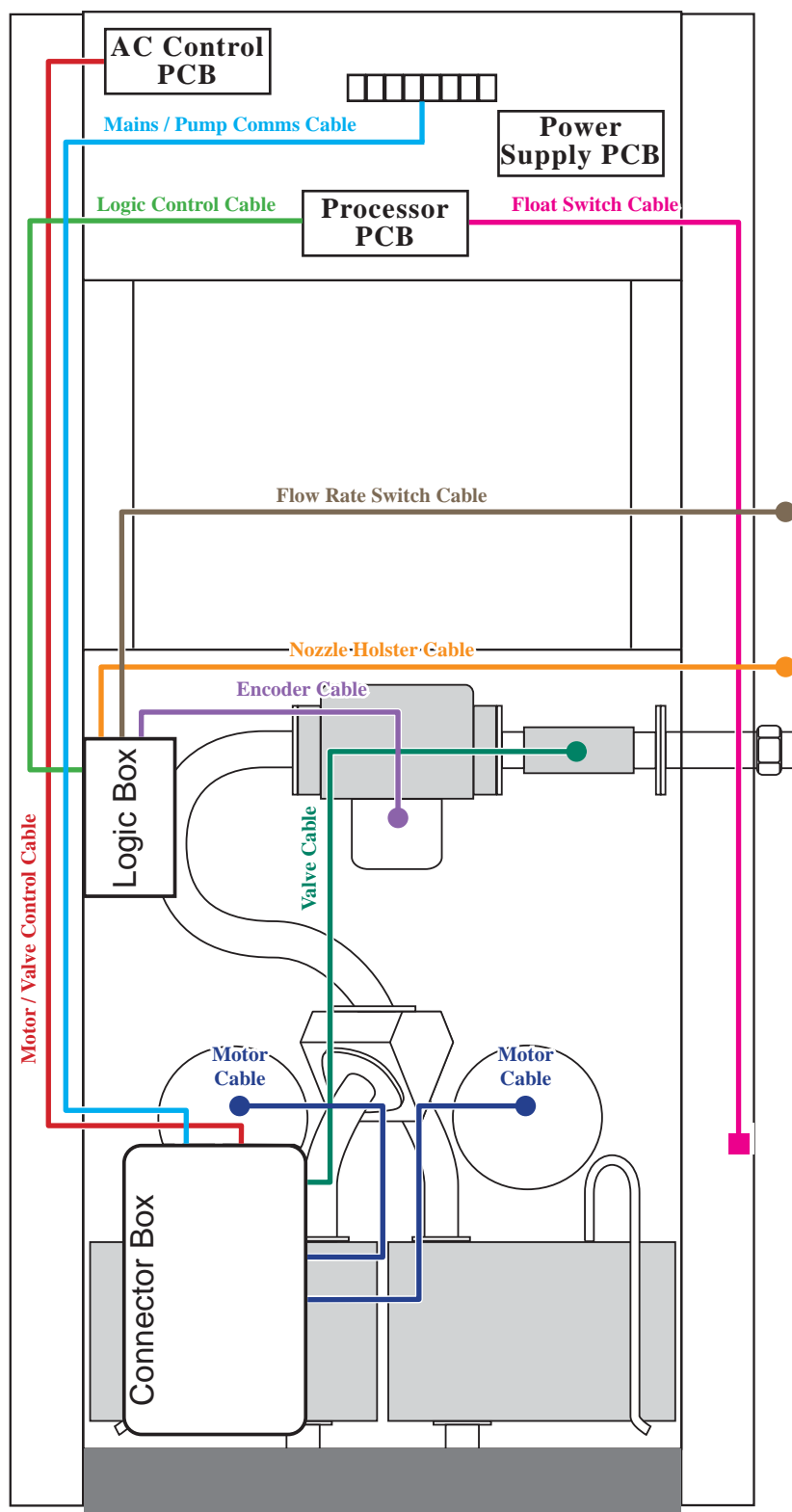
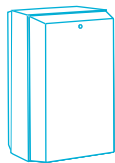


Figure 62. Ultra High Flow Pump Model

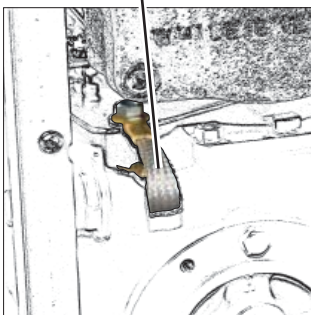
The following table lists the cables used in the various configurations throughout the 1000 Series.



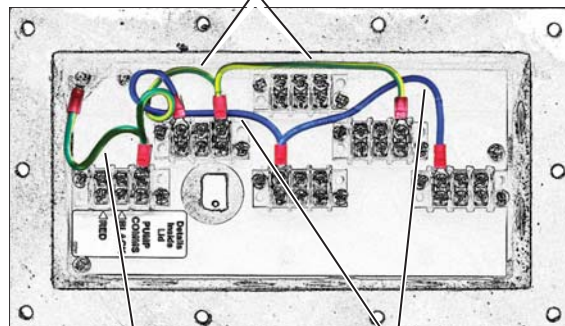
	<i>Cable Description</i>	Mains/Pump Comms	Motor/Valve Control Front	Motor/Valve Control Rear	Logic Control	Flow Rate Switch Front	Flow Rate Switch Rear	Float Switch
Non-UHF	<i>Single Dispenser (Pressure)</i>	[4/200]	[4/201]	N/A	[4/205]	N/A	N/A	[4/208]
	<i>Single Pump (Suction)</i>	[4/200]	[4/201]	N/A	[4/205]	N/A	N/A	[4/208]
	<i>Dual Dispenser (Pressure)</i>	[4/200]	[4/201]	N/A	[4/205]	N/A	N/A	[4/208]
	<i>Dual Pump (Suction)</i>	[4/200]	[4/201]	N/A	[4/205]	N/A	N/A	[4/208]
	<i>Duo Dispenser (Pressure)</i>	[4/200]	[4/201]	N/A	[4/205]	N/A	N/A	[4/208]
	<i>Duo Pump (Suction)</i>	[4/200]	[4/201]	N/A	[4/205]	N/A	N/A	[4/208]
	<i>4 Hose Dispenser (Pressure)</i>	[4/200]	[4/201]	[4/202]	[4/205]	N/A	N/A	[4/208]
	<i>4 Hose Pump (Suction)</i>	[4/200]	[4/201]	[4/202]	[4/205]	N/A	N/A	[4/208]
Ultra High Flow	<i>Pump Model (Suction)</i>	[4/200]	[4/202]	N/A	[4/205]	[4/206]	N/A	[4/208]
	<i>Dual Dispenser (Pressure) Switched</i>	[4/204]	[4/203]	N/A	[4/205]	[4/206]	[4/207]	[4/208]
	<i>Dual Dispenser (Pressure) No Switch</i>	[4/204]	[4/203]	N/A	[4/205]	N/A	N/A	[4/208]
	<i>Single Dispenser (Pressure) Switched</i>	[4/204]	[4/203]	N/A	[4/205]	[4/206]	N/A	[4/208]
	<i>Single Dispenser (Pressure) No Switch</i>	[4/204]	[4/203]	N/A	[4/205]	N/A	N/A	[4/208]

Table 11. Main Body Cables

[4/84] Motor Earth Bonding Cable



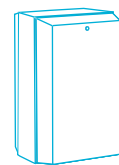
[4/210] Green Link Wires



[4/209] AC Control

Earth Lead

[4/211] Blue Link Wires

**Motor to Pump Unit****Connector Box****Figure 63. Earth and Link Cables**

Ultra High Flow variants have third Green Link Wire in the connector box, running from the top connector block to the left centre connector block.

4.12.1 Parts List - Cables (body)

<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
Mains/Pump Comms Cable CEEPEC	2A83208	72	[4/200]
Motor/Valve Control Cable CEEPEC Front	2A83207	72	[4/201]
Motor/Valve Control Cable CEEPEC Rear	2A83195	72	[4/202]
Motor/Valve Control Cable ULTRA	2A83897	72	[4/203]
Comms Cable ULTRA	2A83898	72	[4/204]
Logic Control Cable CEEPEC	2K83200	72	[4/205]
Flow Rate Switch Cable Front	2A83052	72	[4/206]
Flow Rate Switch Cable Rear *	2A87327	72	[4/207]
Float Switch Link Cable Assembly	2A92068	72	[4/208]
AC Control Earth Lead Assembly	2A87309	73	[4/209]
Link Wire Green	2A83215	73	[4/210]
Link Wire Blue	2A83214	73	[4/211]
Motor Bonding Cable	4G87358	73	[4/84]

* Air Sense Logic Control Cable used.

4.13 Connector (Junction) Boxes

There are up to two Connector Boxes inside the main body of a 1000 series FDS.

1000 Series Connector Boxes use the same metal flameproof enclosure as used on other PEC models such as the 9000 Series. This enclosure is often referred to as a Junction Box.

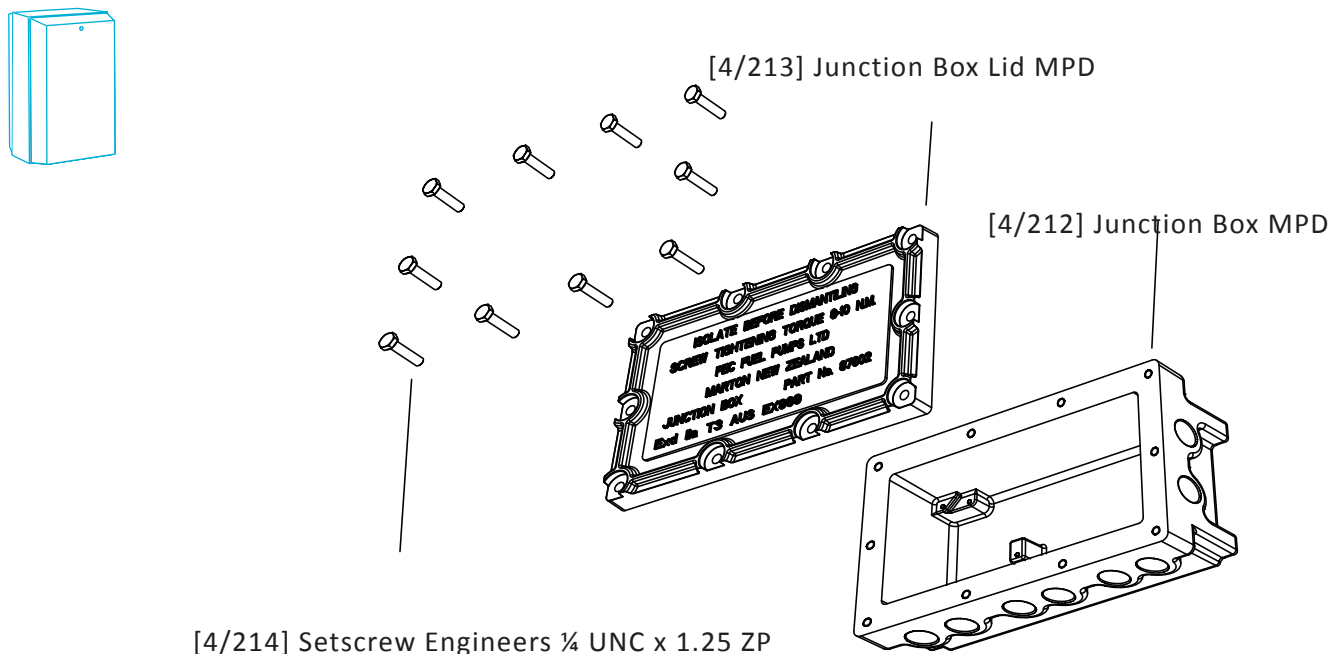




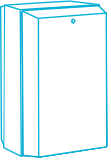
Figure 64. Junction Box

Each Junction Box has eight entry holes into which, depending on the FDS model and configuration, glands or flameproof plugs are inserted.

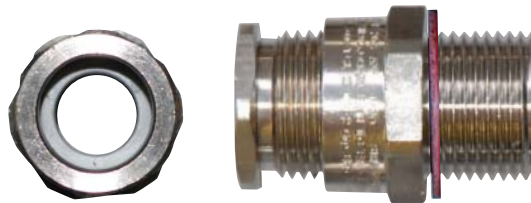
Flameproof plugs are used to blank off any entry holes not required.

Glands are used to seal the entry points of the cables. Several sizes are used, depending on the outer diameter of the cable.

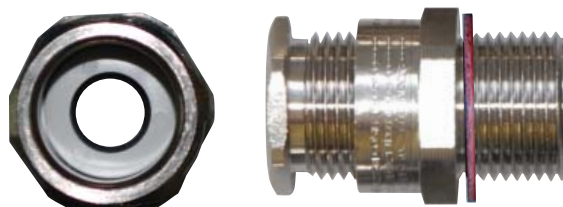
-  The various cables entering the Junction Boxes may have differing outer diameters and because the diameter may vary even within the same cable specification suitable glands are used at assembly to provide an effective seal. It is therefore not possible to indicate exactly which types of gland will be required for replacement parts. To ensure the correct replacement is obtained, compare the glands illustrated in figure 65 and order the glands individually.
-  The 'mains entry' cable is not supplied by Gallagher as it is part of the site, not the FDS. It must be connected to the Junction Box using a suitable certified flameproof gland. Because the actual SWA cable used may vary from site to site, Gallagher do not supply glands for this purpose.



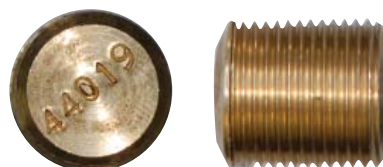
[4/215] Flameproof Gland CMP 20 A2F



[4/216] Flameproof Gland CMP 20S A2F




[4/217] Flameproof Gland CMP 20S/16 A2F



[4/218] Flameproof Plug M20

Figure 65. Junction Box Gland Types

-  Note that factory-fitted glands may not be identical to those illustrated

Standard fixings are used to locate the mounting board inside the Junction Boxes, as illustrated in figure 66.

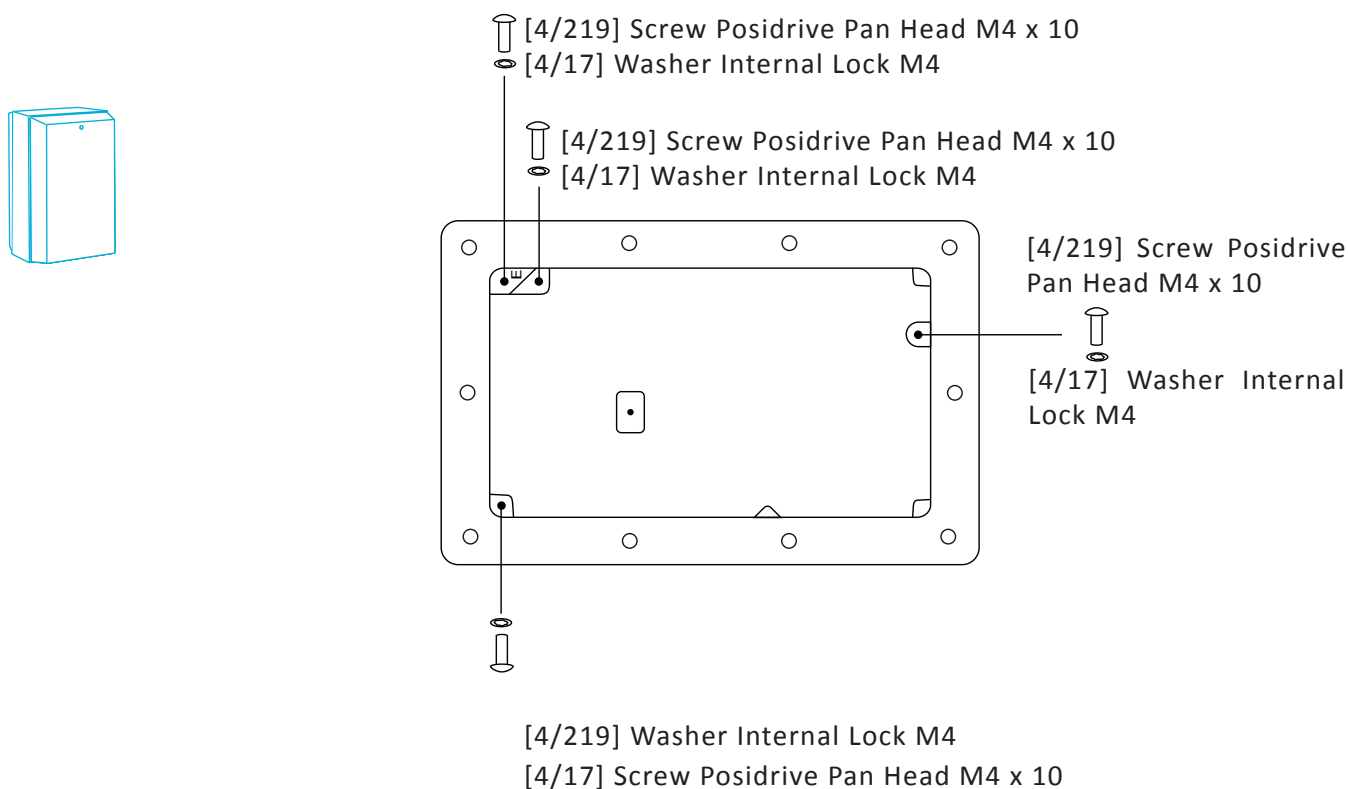


Figure 66. Junction Box PCB Locating Fixings

In all 1000 series models the Junction Boxes are mounted in one of four ways, depending on the configuration of the particular model:

- (a) dispensers use a pair of Power Supply Box Mounting Brackets;
- (b) dual and 4 hose pumping (suction) models and the Ultra High Flow pumping (suction) model use a Junction Box Mounting Bracket;
- (c) single and duo pumping (suction) models use a Junction Box Mounting Plate;
- (d) Ultra High Flow dispensing (pressure) models use a Junction Box Mounting Bracket and an Upper Mount Bracket. The Upper Mount Bracket is fixed to the bolt that secures the Meter Mounting Angle.

The Connector Board inside the Connector Box is not available as a separate spare part, however complete Connector Box Assemblies (including the Connector Board) are available, item number [4/220] (not illustrated).

The four types of bracket and their fixings are illustrated in figure 67.

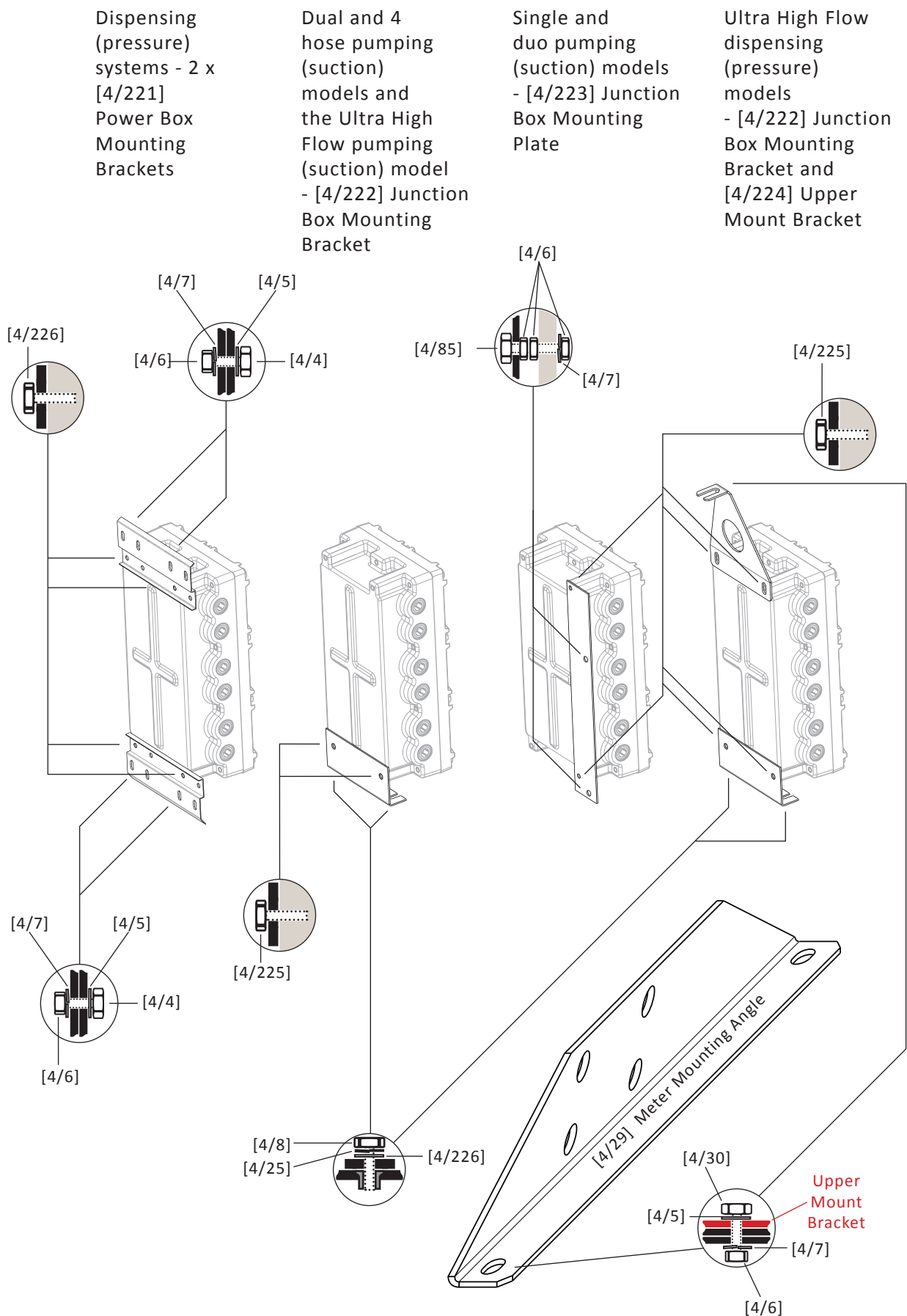
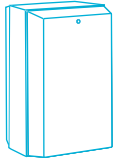


Figure 67. Junction Box Mounting Hardware

4.13.1 Parts List - Junction Boxes

<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
Junction Box MPD	2A87800	74	[4/212]
Junction Box Lid MPD	2A87801	74	[4/213]
Setscrew Engineers ¼ UNC x 1.25 ZP	5D01210	74	[4/214]
Flameproof Gland UFPN20C	4E23430	75	[4/215]
Flameproof Gland UFPN20B	4E23450	75	[4/216]
Flameproof Gland CMP 20S/16 A2F	4E23455	75	[4/217]
Flameproof Plug M20	2A44019	75	[4/218]
Screw Posidrive Pan Head M4 X 10	5D01710	76	[4/219]
CEEPEC Connector ASM	2A83765	76	[4/220]
Power Supply Box Mounting Bracket	4G87807	77	[4/221]
Junction Box Mounting Bracket	4G83625	77	[4/222]
Junction Box Mounting Plate	4G83629	77	[4/223]
Upper Mount Bracket	4G83939	77	[4/224]
Setscrew ¼UNC x ¾ ZP	5D01200	77	[4/225]
Washer Flat M6	5C04460	77	[4/226]
Setscrew M8 x 16 ZP	5D00090	77	[4/4]
Washer Flat M8	5C04440	77	[4/5]
Nut Full Steel M8 ZP	5B03240	77	[4/6]
Washer Spring M8	5C04210	77	[4/7]
Setscrew M6 x 16 ZP	5D00960	77	[4/8]
Washer Internal Lock M4	5C04500	76	[4/17]
Washer Spring M6	5C04200	77	[4/25]
Mounting Angle	4G83975	77	[4/29]
Setscrew M8 x 20 ZP	5D00100	77	[4/30]
Setscrew M8 x 45mm ZP	5D00930	77	[4/85]



5 COLUMNS

The delivery pipes and hoses of a 1000 Series FDS exit the main body into the columns and, depending on the model and configuration, exit the column either via the column cap (on non-UHF models) or directly out of the column side (on Ultra High Flow versions).

The panelwork for the columns is described in section 5.1, along with their fixings. Note that the column caps are associated with the various methods of hose attachment and suspension and are therefore described in detail along with all relevant fixings for the hoses in section 5.2.

Delivery hoses and pipes are routed through the columns. Hoses are dealt with separately in section 7.

Ultra High Flow models may be fitted with a flow rate switch which is located on the outside of the column. The switch and its associated electrical parts is described in section 5.3.

The 1000 Series holsters are located on the columns. The holsters are described in section 5.4.

5.1 Column Panels

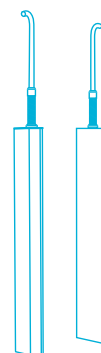
The columns themselves are constructed from two major parts, with a Column Spine fixed firmly to the chassis and a column cover attached at the top to the Column Spine and fixed at the bottom to the FDS base by a Cover Mount Bracket.

The Cover Mount Bracket itself is fixed to the FDS base and the column cover is fixed to the bracket using a Cover Mount Nut Plate.

Figure 68 shows the construction of the 1000 Series columns.

Column Covers for the non-UHF models are available with one, two or no holster cutouts, to suit the different model configurations.

Ultra High Flow models use a different profile column cover, which has two holster cutouts. An unused cutout can be masked using ablanking plate. Further blanking plates are available for the delivery pipe outlet cutout and the flow rate switch cutout along with the outlet mask and outlet mask gasket used in conjunction with the UHF outlet pipe. The blanking plates are shown in figure 69



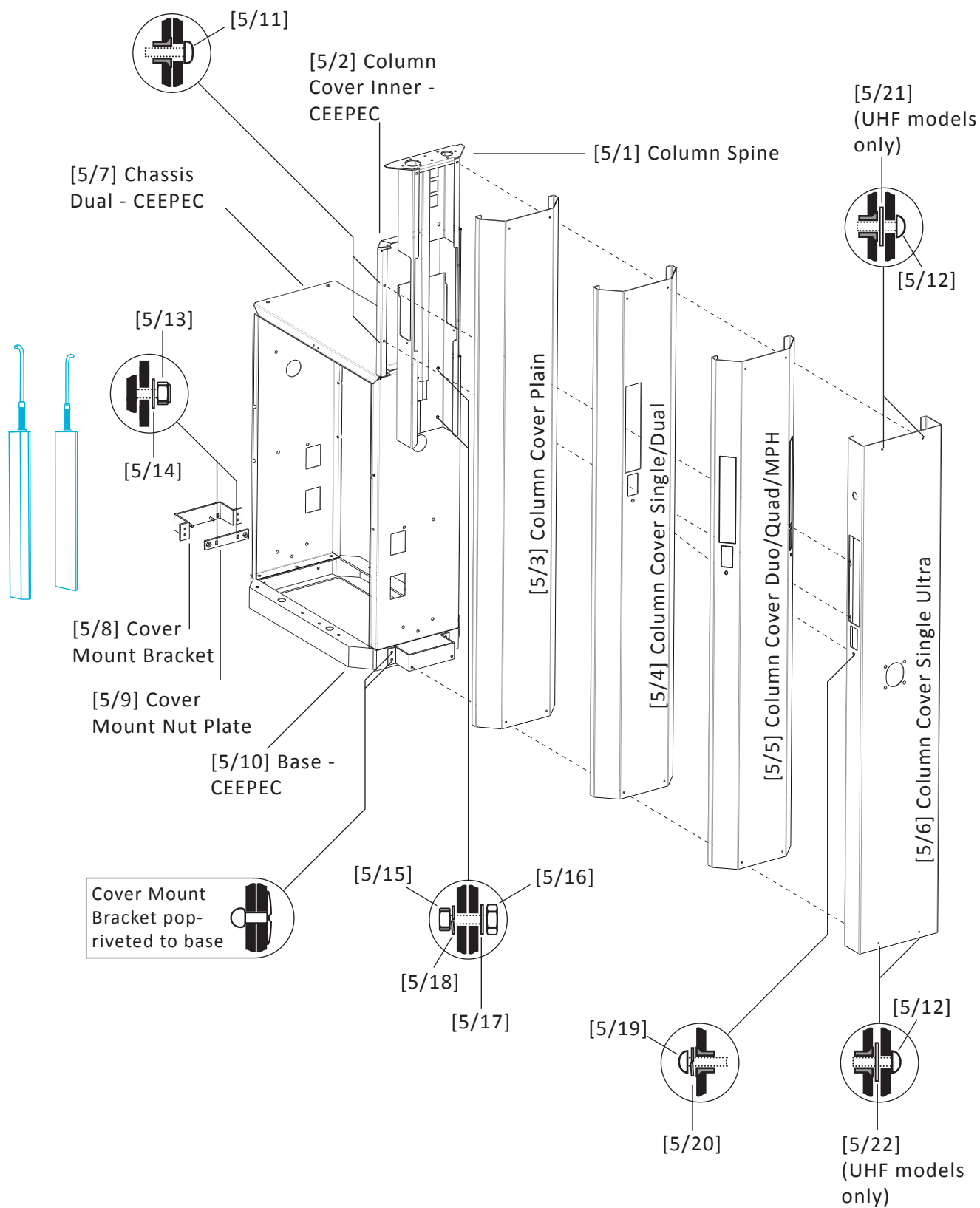


Figure 68. 1000 Series Column Construction

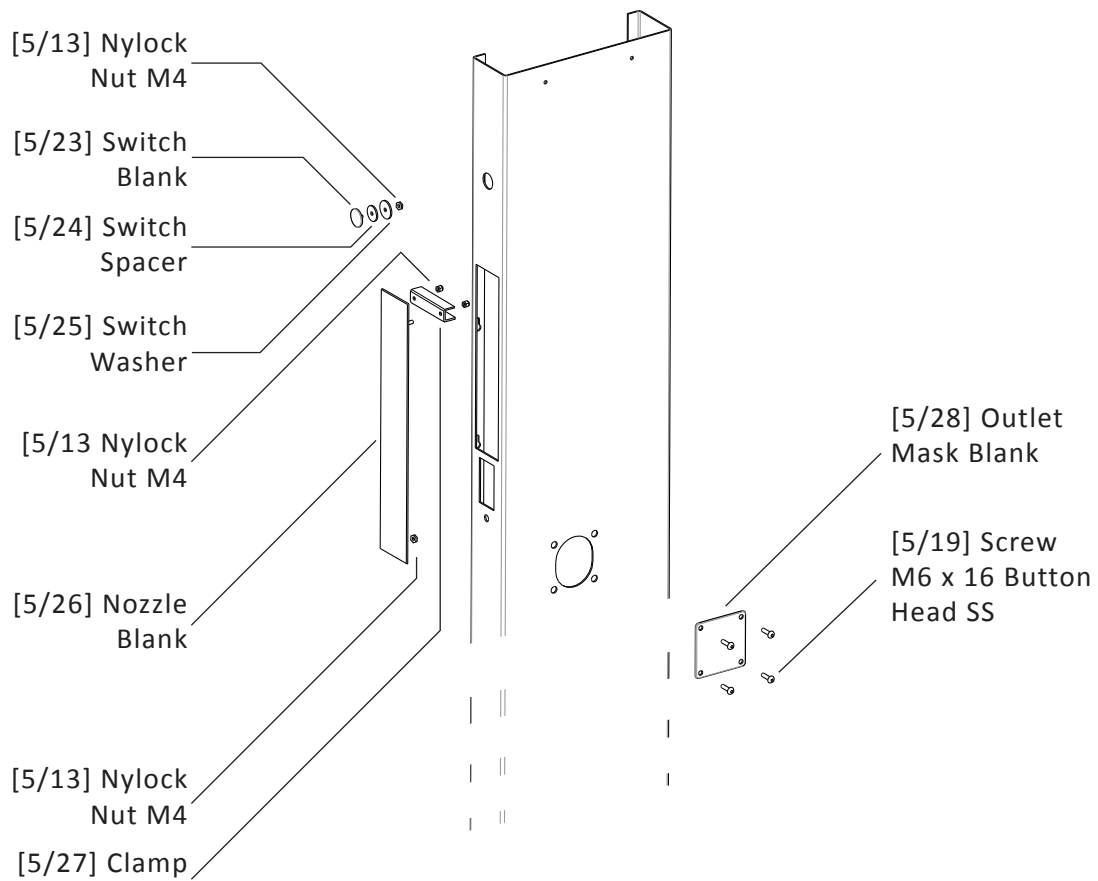
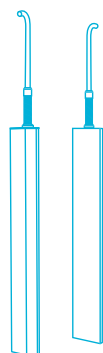


Figure 69. Blanking Plates and Fixings

5.1.1 Parts List - Column Panels

Part Description	Part No.	Page No.	Item No.
Column Spine	P83640	80	[5/1]
Column Cover Inner - CEEPEC	P83623	80	[5/2]
Column Cover Plain	P83693	80	[5/3]
Column Cover Single/Dual	P83621	80	[5/4]
Column Cover Duo/Quad/MPH	P83622	80	[5/5]
Column Cover Single Ultra	P83958	80	[5/6]
Chassis Dual - CEEPEC	4G83660	80	[5/7]
Cover Mount Bracket	4G83624	80	[5/8]
Cover Mount Nut Plate	4G83727	80	[5/9]
Base - CEEPEC	4G83600	80	[5/10]
Screw Posidrive Pan Head M4 x 12	5D00650	80	[5/11]
Screw Button Socket Head M4 x 12 SS	5D01670	80	[5/12]
Nyloc Nut M4	5B03020	80	[5/13]
Washer Flat Steel M4 x 9mm OD	5C04570	80	[5/14]
Nut Full Steel M8 ZP	5B03240	80	[5/15]
Setscrew M8 x 16 ZP	5D00090	80	[5/16]
Washer Flat M8	5C04440	80	[5/17]
Washer Spring M8	5C04210	80	[5/18]
Screw Button Socket Head M6 x 16 SS	5D01650	80	[5/19]
Washer Spring M6	5C04200	80	[5/20]
Washer Flat M4 x 12mm OD SS	5C83724	80	[5/21]
Washer Flat M6	5C04460	80	[5/22]
Switch Blank	4G83967	81	[5/23]
Switch Spacer	4G83963	81	[5/24]
Switch Washer	4G83959	81	[5/25]
Nozzle Blank	4G82851	81	[5/26]
Clamp	4G82852	81	[5/27]
Outlet Mask Blank	4G83969	81	[5/28]
Outlet Mask Gasket	4G83971	81	[5/29]
Outlet Mask	4G83968	81	[5/30]



5.2 Column Caps and Hose Attachments

The 1000 Series column caps are closely associated with the hose attachment method used. The following illustration shows the hose attachment methods, excluding hoses for boom attachment, which simply pass through the column cap.

Hi-arms, including the UHF variants, are available as complete kits. Individuals parts for all arms are also available.

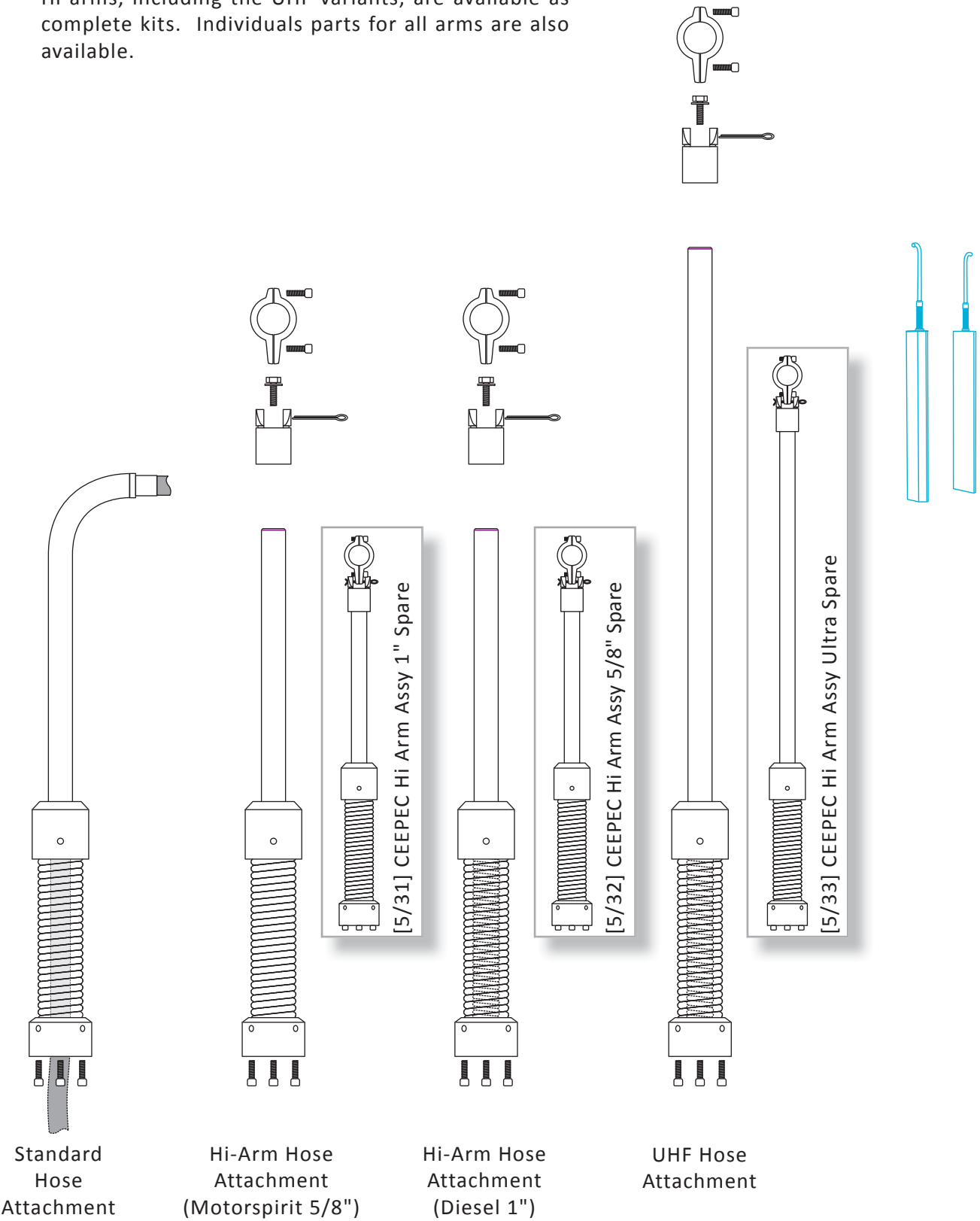


Figure 70. 1000 Series Hose Attachment Methods

The Standard hose attachment method used on the 1000 Series range consists of a sprung pipe attached at the bottom to the internal hose and at the top to the delivery hose. The internal hose passes inside the spring and the fluid passes through the pipe.

The Hi-Arm method employs a swivel body and clamp atop a sprung supporting arm. The hose does not pass through the spring. For heavier 1" hoses, requiring more support, the spring is supplemented by the addition of an internal spring.

UHF variants utilise a longer arm and are further strengthened by the use of a stiffer internal spring.

These are shown in detail in the following illustrations.



Internal springs are under very high tension. Gallagher recommends that these are NOT assembled/disassembled by service personnel. Internal springs and their associated retaining pins and plates are therefore NOT available as separate spare parts. Reinforced spring assemblies (external and internal springs with retaining pins and plates) are available.

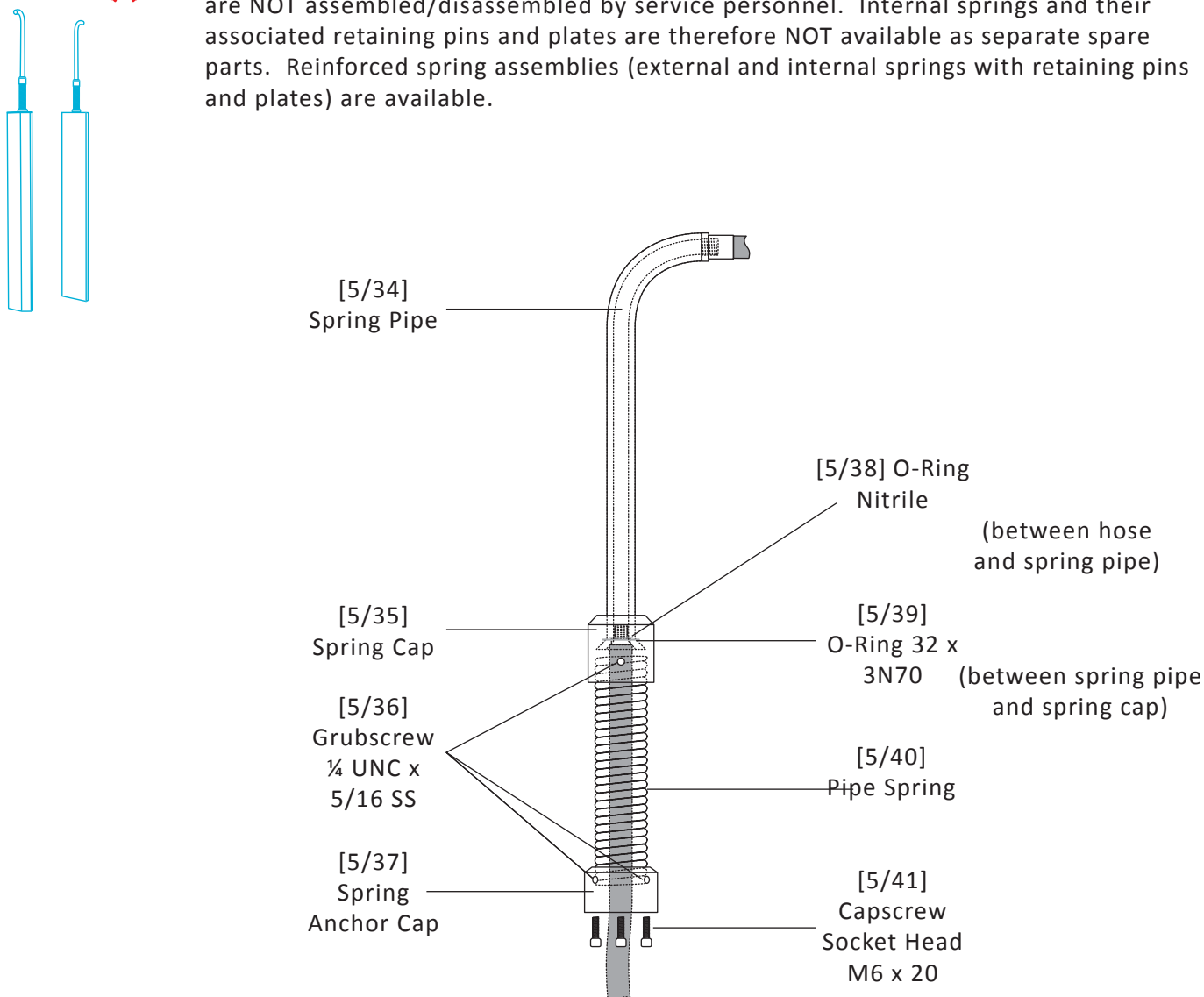


Figure 71. 1000 Series Standard Hose Attachment

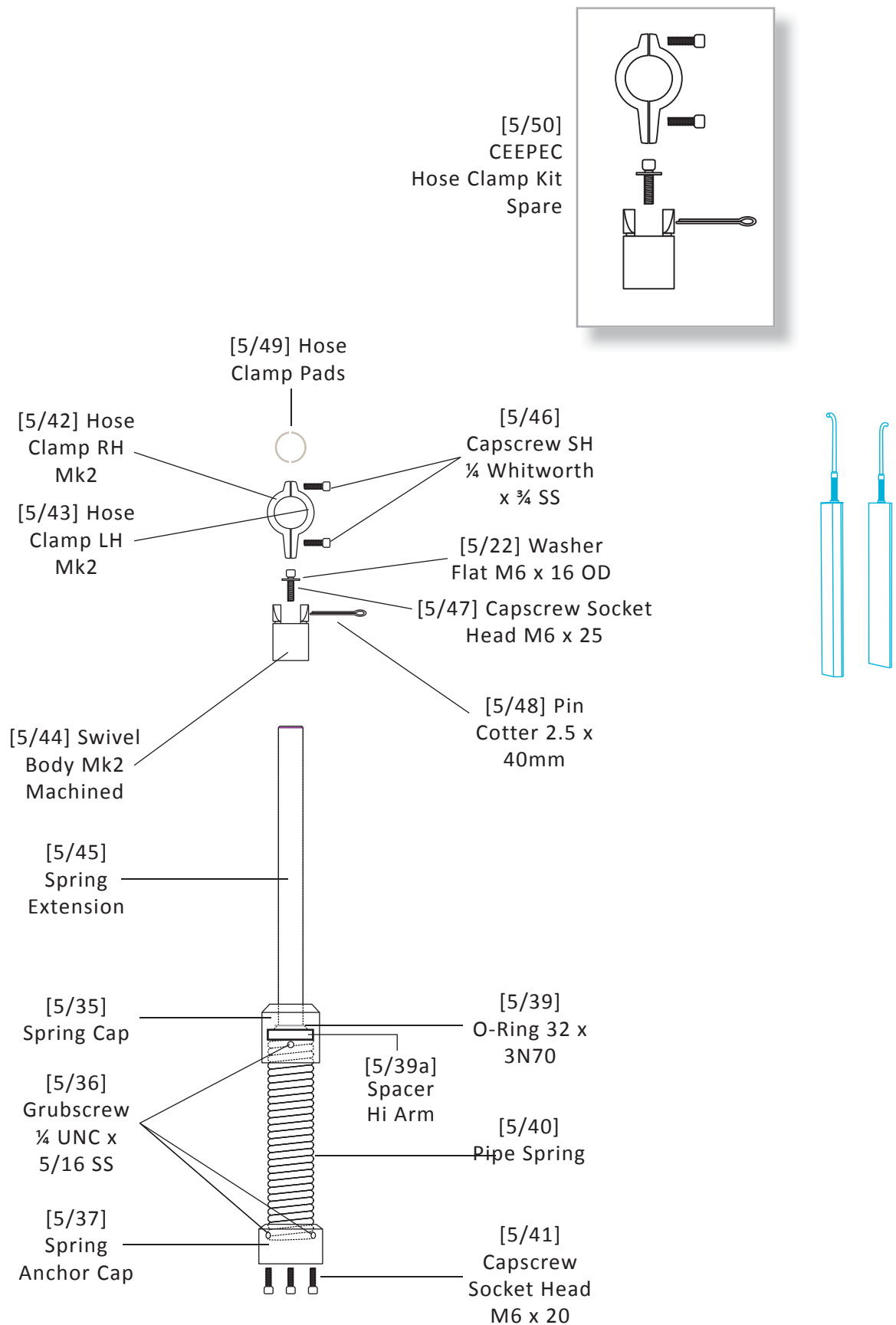


Figure 72. 1000 Series Hi-Arm Hose Attachment Petrol/Diesel 5/8"

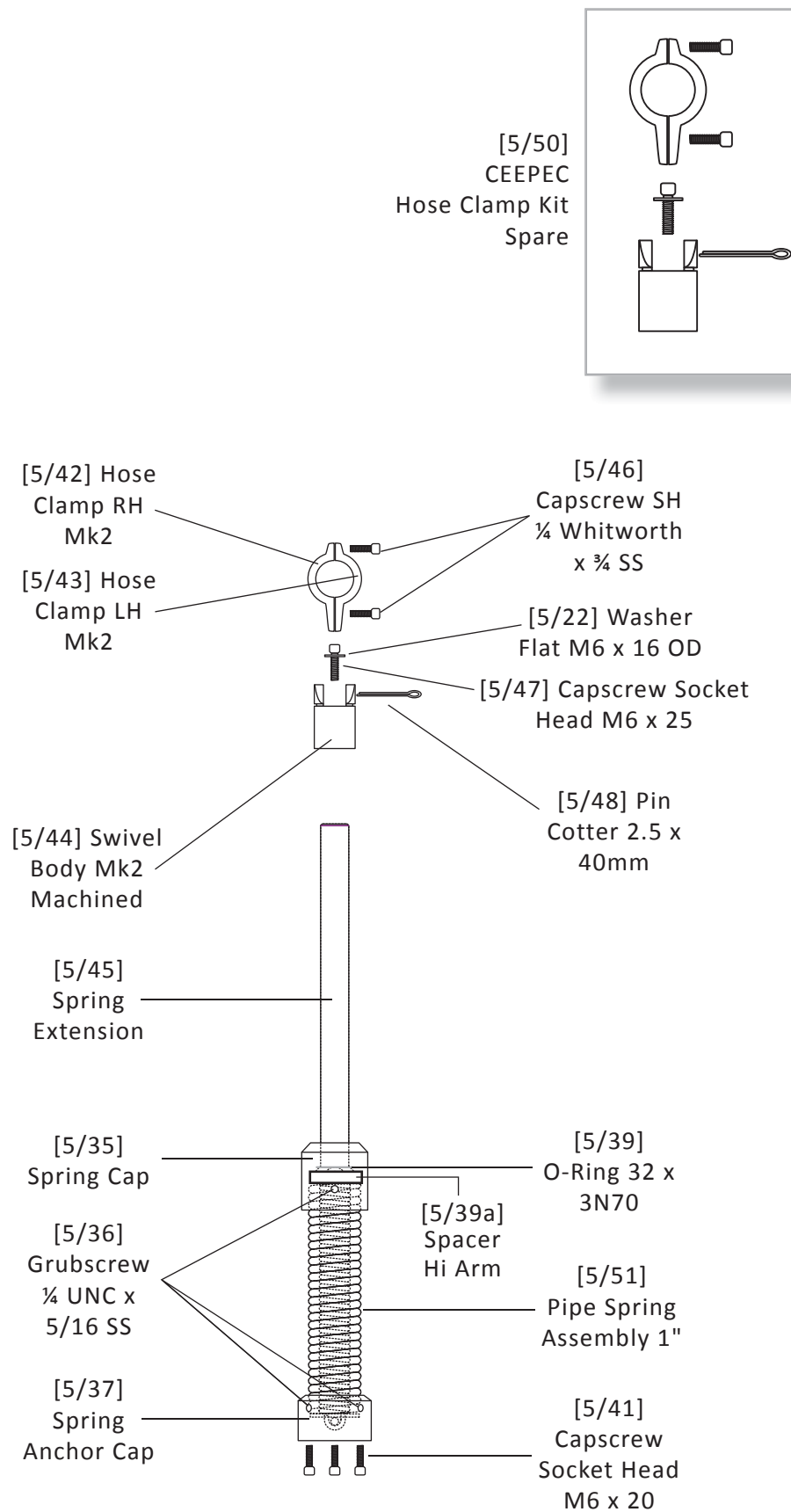
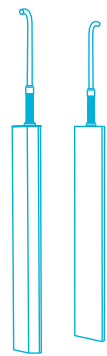


Figure 73. 1000 Series Hi-Arm Hose Attachment Diesel 1"

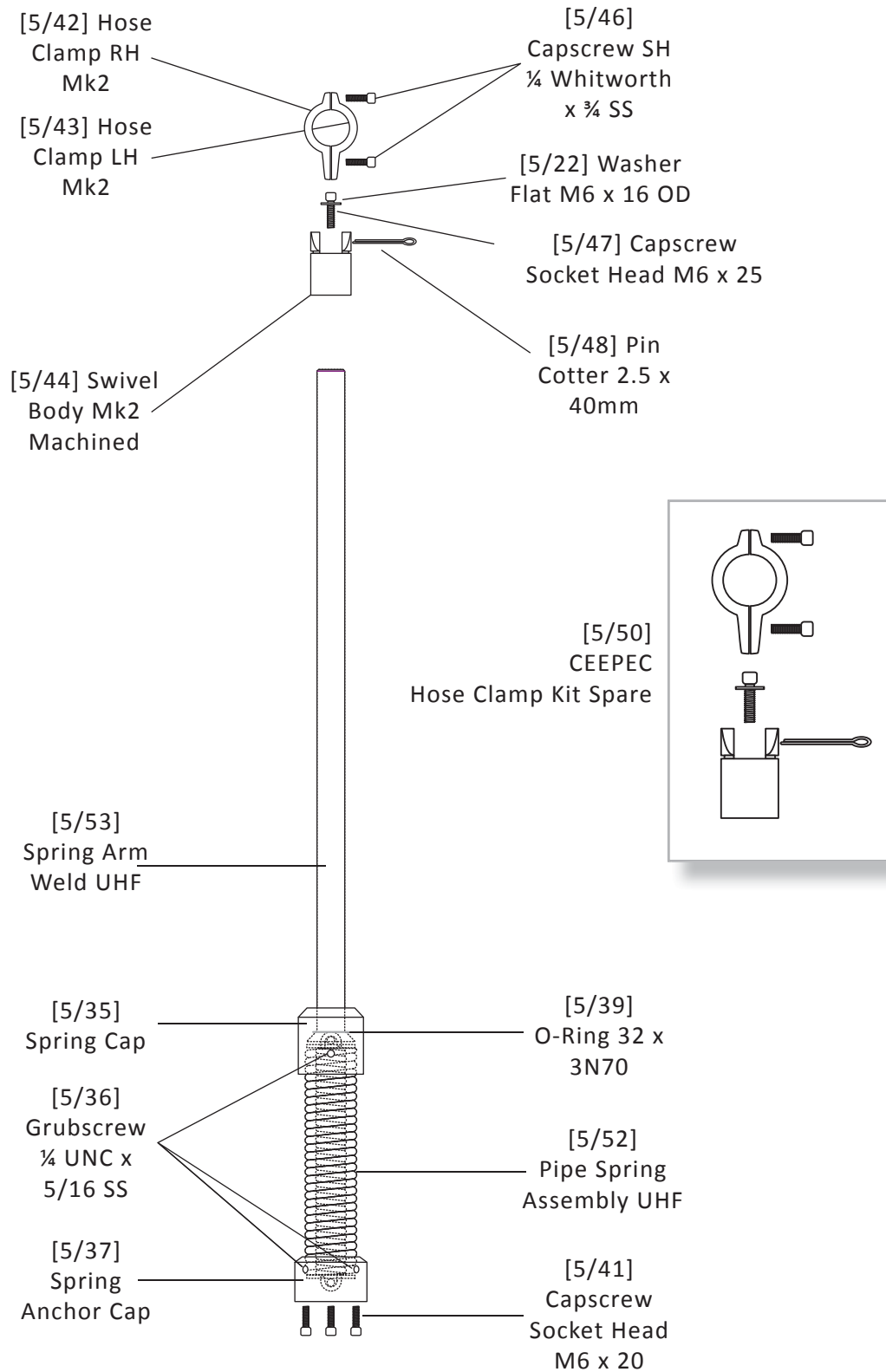


Figure 74. 1000 Series UHF Hose Attachment

Figure 75 shows the different column caps available and their fixings.

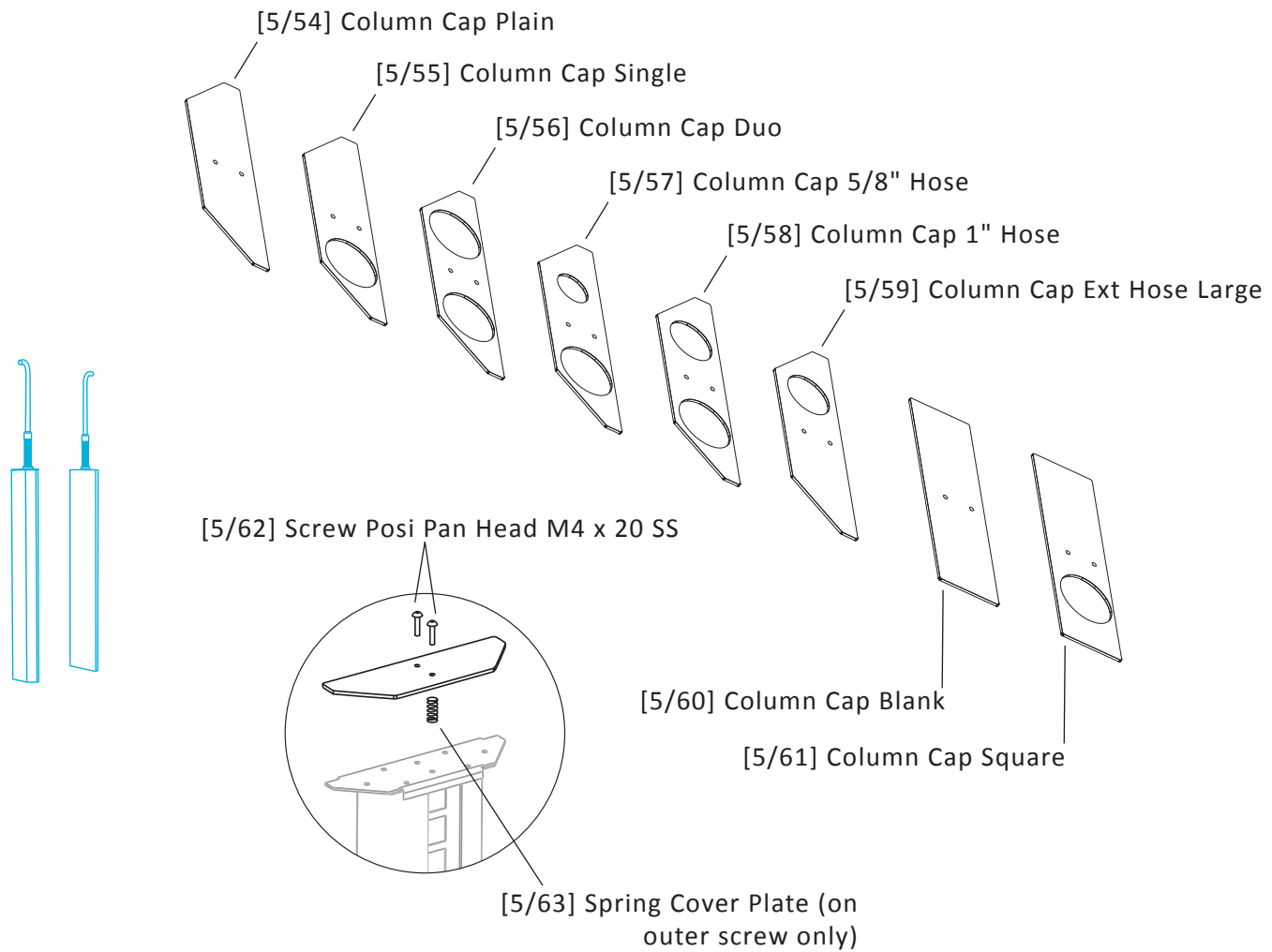
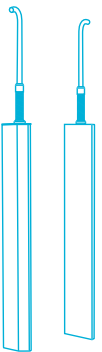


Figure 75. 1000 Series Column Caps

Table 5 shows which column cap is used for the different hose attachment methods.

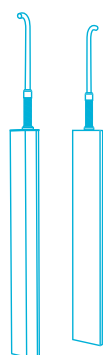
		Column Cap							
		[5/54] Column Cap Plain	[5/55] Column Cap Single	[5/56] Column Cap Duo	[5/57] Column Cap 5/8" Hose	[5/58] Column Cap 1" Hose	[5/59] Column Cap Ext Hose Large	[5/60] Column Cap Blank	[5/61] Column Cap Square
Column/Hose Configuration	Non-UHF No Hoses	•							
	Non-UHF 1 x Standard 5/8" Hose		•						
	Non-UHF 2 x Standard 5/8" Hoses			•					
	Non-UHF 5/8" Hose on Hi-Arm				•				
	Non-UHF 1" Hose on Hi-Arm					•			
	Non-UHF 1" Hose on Boom						•		
	UHF With Hose							•	
	UHF No Hose								•

Table 12. Column Caps & Hose Attachments



5.2.1 Parts List - Column Caps and Hose Attachments

<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
CEEPEC Hi Arm Assembly 1" Spare	P83116	83	[5/31]
CEEPEC Hi Arm Assembly 5/8" Spare	P83118	83	[5/32]
CEEPEC Hi Arm Assembly Ultra Spare	P83874	83	[5/33]
Spring Pipe	4G87930	84	[5/34]
Spring Cap	4G87924	84	[5/35]
Grubscrew ¼ UNC x 5/16 SS	5D01691	84	[5/36]
Spring Anchor Cap	4G87923	84	[5/37]
O-Ring Nitrile	4G29665	84	[5/38]
O-Ring 32 x 3N70	4G29635	84	[5/39]
Spacer Hi Arm	2A02955	85	[5/39a]
Pipe Spring	4G87929	84	[5/40]
Capscrew Socket Head M6 x 20	5D00030	84	[5/41]
Hose Clamp RH Mk2	2A92784	85	[5/42]
Hose Clamp LH Mk2	2A92783	85	[5/43]
Swivel Body Mk2 Machined	2A92782M	85	[5/44]
Spring Extension	4G89871	85	[5/45]
Capscrew SH ¼ Whitworth x ¾ SS	5D01100	85	[5/46]
Capscrew Socket Head M6 x 25	5D00040	85	[5/47]
Pin Cotter 2.5 x 40mm	4E06115	85	[5/48]
Hose Clamp Pads	4G92767	85	[5/49]
CEEPEC Hose Clamp Kit Spare	P83005	85	[5/50]
Pipe Spring Assembly 1"	P83735	86	[5/51]
Pipe Spring Assembly UHF	2A92545	87	[5/52]
Spring Arm Weld UHF	4G92546	87	[5/53]
Column Cap Plain	4G83691	88	[5/54]
Column Cap Single	4G83714	88	[5/55]
Column Cap Duo	4G83715	88	[5/56]
Column Cap 5/8" Hose	4G83757	88	[5/57]
Column Cap 1" Hose	4G83736	88	[5/58]
Column Cap Ext Large Hose	4G83824	88	[5/59]
Column Cap Blank	4G83972	88	[5/60]
Column Cap Square	4G83973	88	[5/61]
Screw Posidrive Pan Head M4 x 20 SS	5D01665	88	[5/62]
Spring Cover Plate	4G83738	88	[5/63]



5.3 Flow Rate Switch

Ultra High Flow models are available with a flow rate switch, enabling the fuel flow rate to be switched between High and Ultra High. This switch is optional on dispensing (pressure) systems but is standard on pumping (suction) models.

Externally, the switch is located towards the top of the column, as shown in figures 61, 62 and 69.

The switch assembly consists of three parts, as shown in figure 76 below.

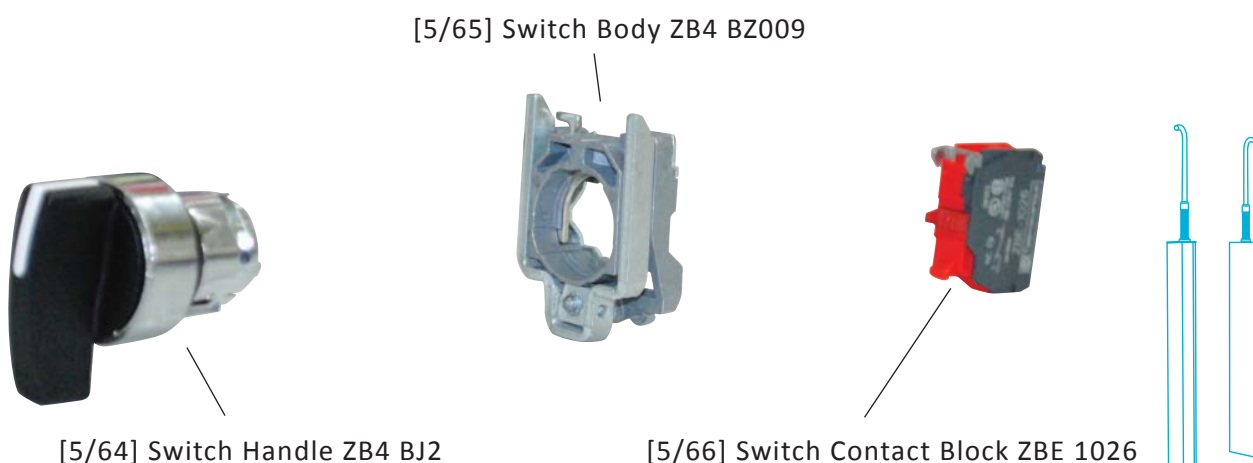


Figure 76. Flow Rate Switch

A decal set, which includes the signs behind the switch itself and the warning sign on the outside of the column, is also available.

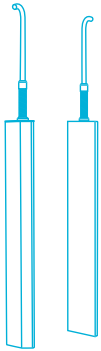


[5/67] Decal Ultra Ceepec Speed Switch Red

Figure 77. UHF Flow Rate Switch Decal

5.3.1 Parts List - Flow Rate Switch

<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
Switch Handle ZB4 BJ2	2M00103	91	[5/64]
Switch Body ZB4 BZ009	2M00101	91	[5/65]
Switch Contact Block ZBE 1026	2M00102	91	[5/66]
Decal Ultra Ceepec Speed Switch White	3B83788	91	[5/67]



5.4 Holsters

All Motorspirit Holster Assemblies supplied with the 1000 Series models are now plastic regardless of product type. Older models used cast alloy holsters, which have been superseded.

Complete Holster Assemblies are available. The individual parts for the holster assemblies are also available as spares.

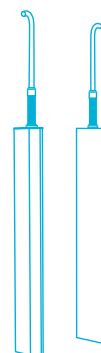


Figure 78. Holster Assemblies



Replacement parts for the plastic holsters may be retro-fitted to the older cast holsters.

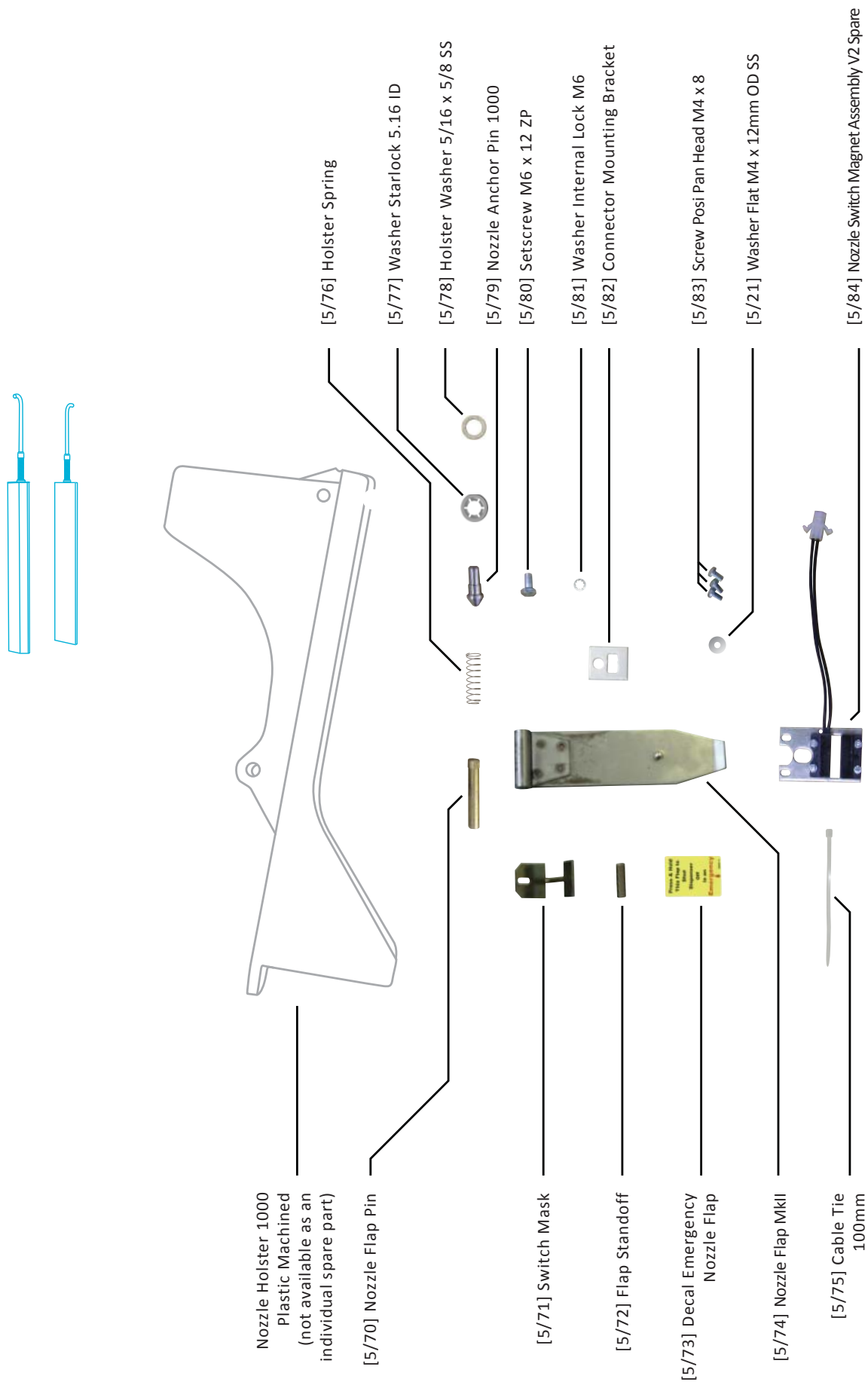


Figure 79. Holster Assembly, Petrol - parts

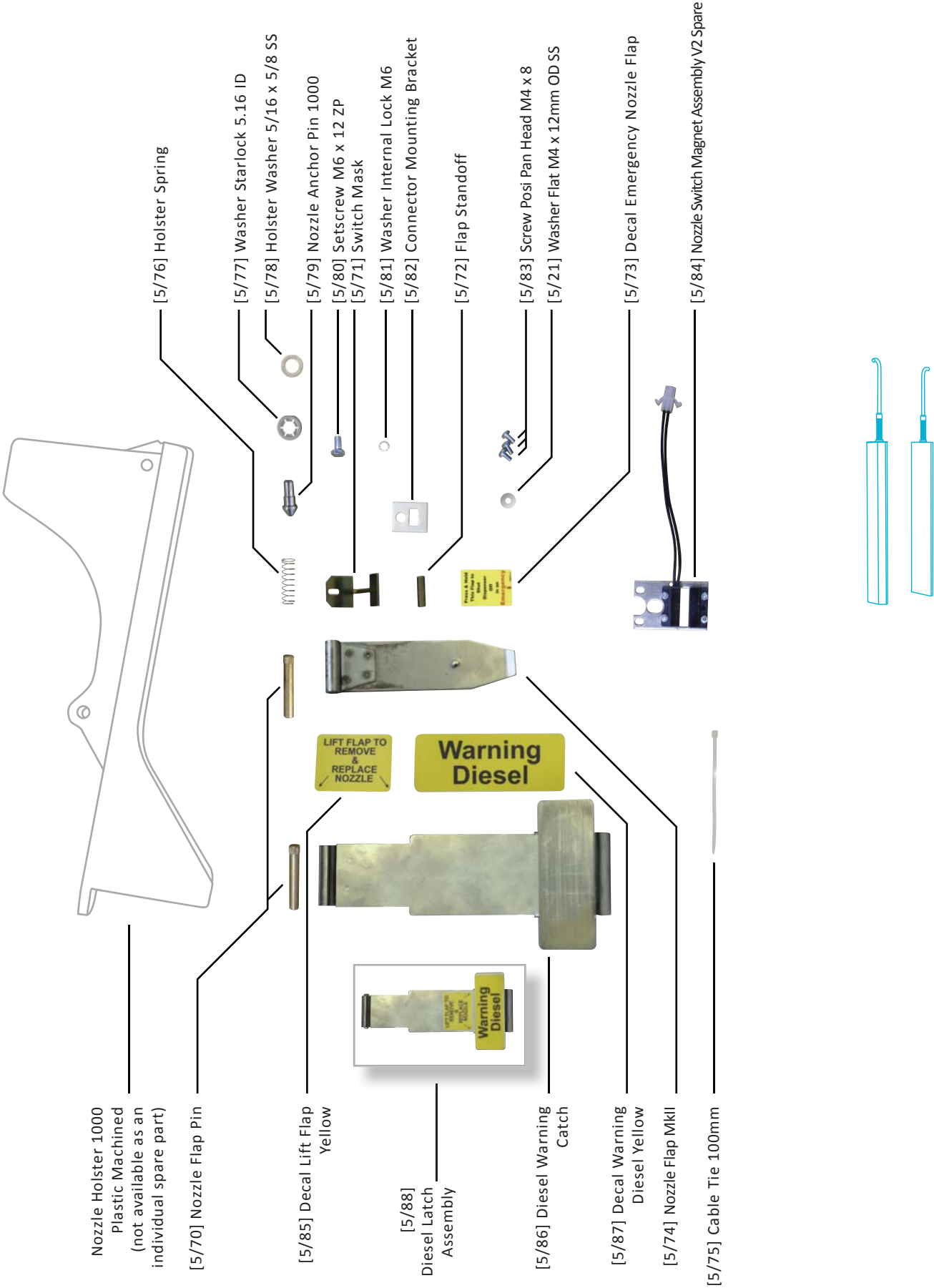


Figure 80. Holster Assembly, Diesel - parts

Nozzle Cables connect the holster switches to the Logic Box. Two lengths of nozzle cables are used throughout the 1000 Series (CEEPEC) model range. The shorter cable (1.2m) is for the holster on the column closest to the Logic Box and the longer cable (1.7m) for the other column.



Figure 81. Holster Cables

5.4.1 Parts List - Holsters

<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
Petrol Holster Assembly	2A83076	93	[5/68]
Diesel Holster Assembly	2A83076D	93	[5/69]
Nozzle Flap Pin	2A83675	94/95	[5/70]
Switch Mask	4G83901	94/95	[5/71]
Flap Standoff	2A83903	94/95	[5/72]
Decal Emergency Nozzle Flap	3E92633	94/95	[5/73]
Nozzle Flap MkII	4G83902	94/95	[5/74]
Cable Tie 100mm	4G23640	94/95	[5/75]
Holster Spring	4G83701	94/95	[5/76]
Washer Starlock 5.16 ID	5C06060	94/95	[5/77]
Holster Washer 5/16 x 5/8 SS	4G83712	94/95	[5/78]
Nozzle Anchor Pin 1000	2A83700	94/95	[5/79]
Setscrew M6 x 12 ZP	5D00060	94/95	[5/80]
Washer Internal Lock M6	5C04020	94/95	[5/81]
Connector Mounting Bracket	4E83677	94/95	[5/82]
Screw Posi Pan Head M4 x 8	5D00610	94/95	[5/83]
Nozzle Switch Magnet Assembly V2 Spare	P92752	94/95	[5/84]
Decal Lift Flap Yellow	3E83187	95	[5/85]
Diesel Warning Catch	4G92692	95	[5/86]
Decal Warning Diesel Yellow	3E83186	95	[5/87]
Diesel Latch Assembly	2A92190P	95	[5/88]
Cable Nozzle Switch (Short)	2A89737	96	[5/89]
Cable Nozzle Switch (Long)	2A83217	96	[5/90]
Washer Flat M4 x 12mm OD SS	5C83724	94/95	[5/21]

6 HEAD

The head of a 1000 series FDS contains the display electronics and user interface.

The cabinet itself is a structural component and is not available as a spare part, although the PCBs, lighting and other parts within the head are available and are described in section 6.1.

The Head Cabinet Door Assemblies and associated Graphic Panels are described in section 6.2. Component parts are also detailed, including the display PCBs.

Various cables are contained within the head and these are described in section 6.3.

6.1 Head Cabinet Assembly

The Head Cabinet itself is not available as a replacement part. However all components, except for the metal cabinet, are available as individual spare parts.

Figure 82 shows the head cabinet and the layout of its internal components which include the following:

- | | |
|---|-----------------------------------|
| (a) 12V Battery Assembly; | (e) Main Processor PCB; |
| (b) Lighting Box and Lighting Assemblies; | (f) Power Supply PCB; |
| (c) AC Control PCB; | (g) Hinges, brackets and fixings. |
| (d) Power Regulator PCB; | |

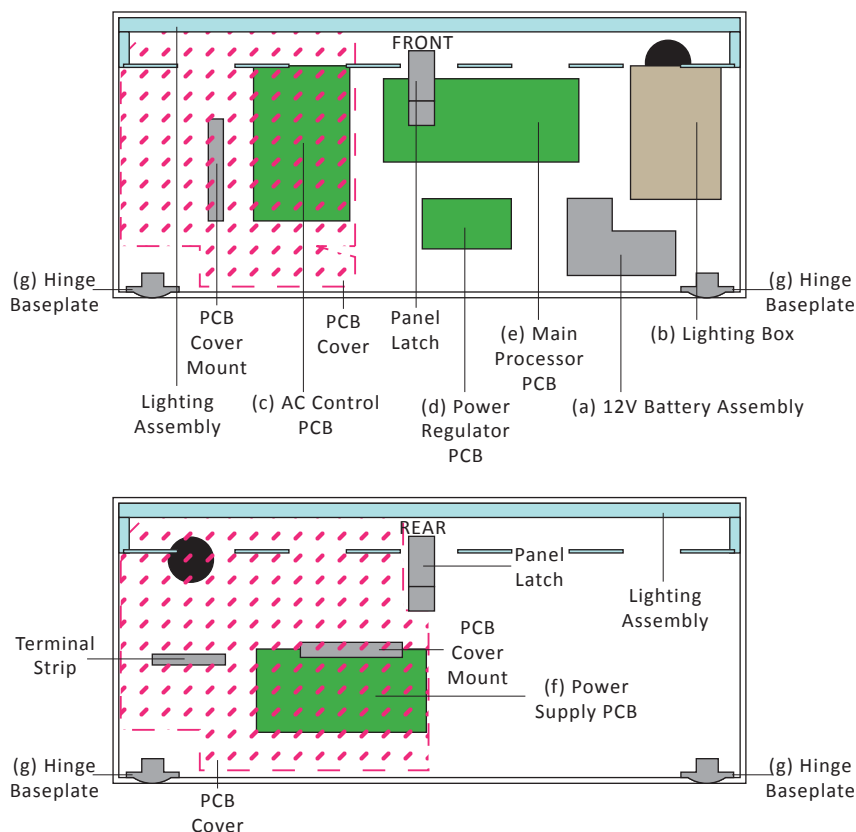


Figure 82. 1000 Series Head

12V Battery Assembly

The 12V Battery Assembly is located in the front of the head cabinet towards the right hand side. It is fixed to the back wall of the cabinet by a cable tie and comes with an integral cable which is coiled and held in place by a smaller cable tie (see figure 83). The cable is connected to the power regulator PCB.

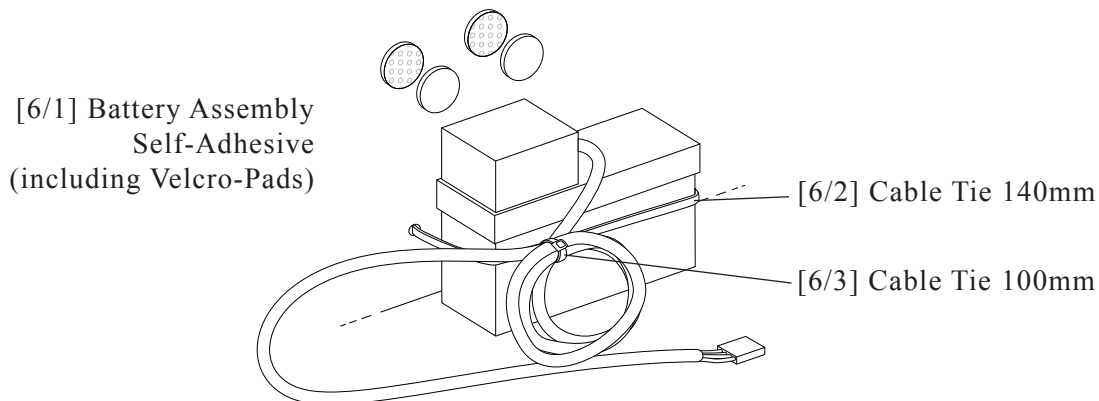


Figure 83. 12V Battery Assembly

Lighting

The Lighting Box is located on the right hand side of the back wall of the cabinet. It is connected by cables to the front and rear lighting assemblies. The lighting assemblies consist of various component parts which are available as spares, but the Lighting Box is only available as a complete assembly. The Lighting Box Assembly includes starters for the fluorescent tubes. Spare starters are also available. See figure 84 for full details.

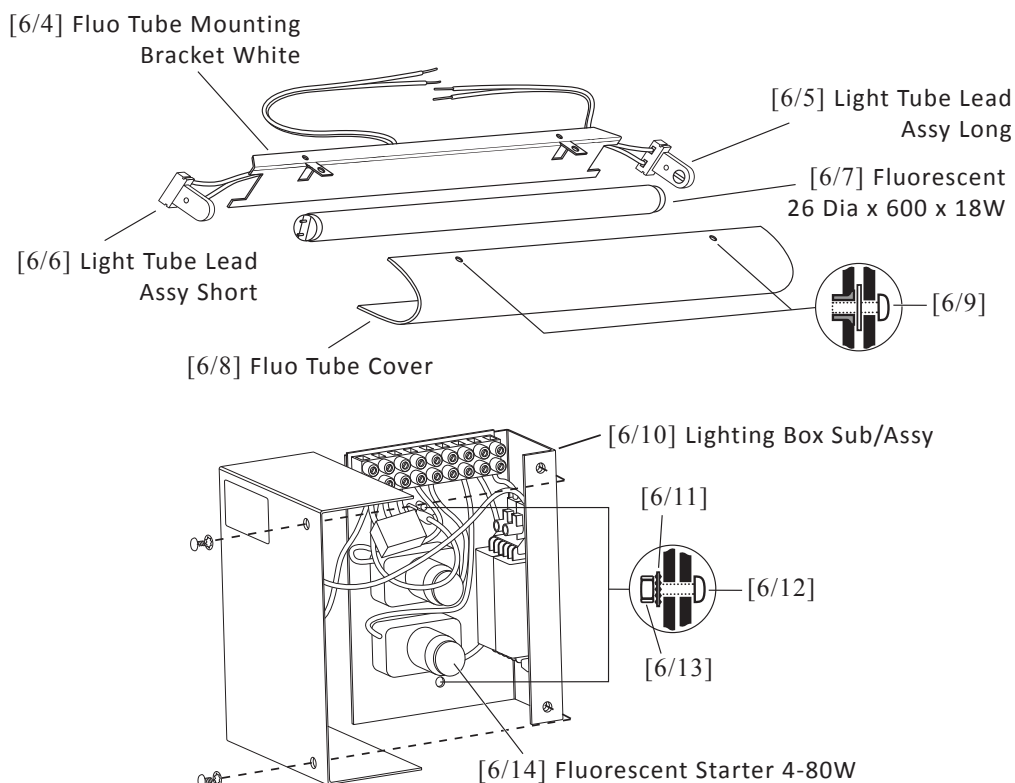


Figure 84. Lighting Box and Lighting Assembly

Other Brackets & Fixings

The following other brackets and fixings are also present in the 1000 Series head:

- (a) two Hinge Baseplates front and rear for attachment of the head doors;
- (b) a Panel Latch front and rear for locating and locking the doors when closed;
- (c) a PCB Cover Mount front and rear, each supporting a different PCB Cover;
- (d) a Terminal Strip for cable interconnection.

These components are shown in figure 85.

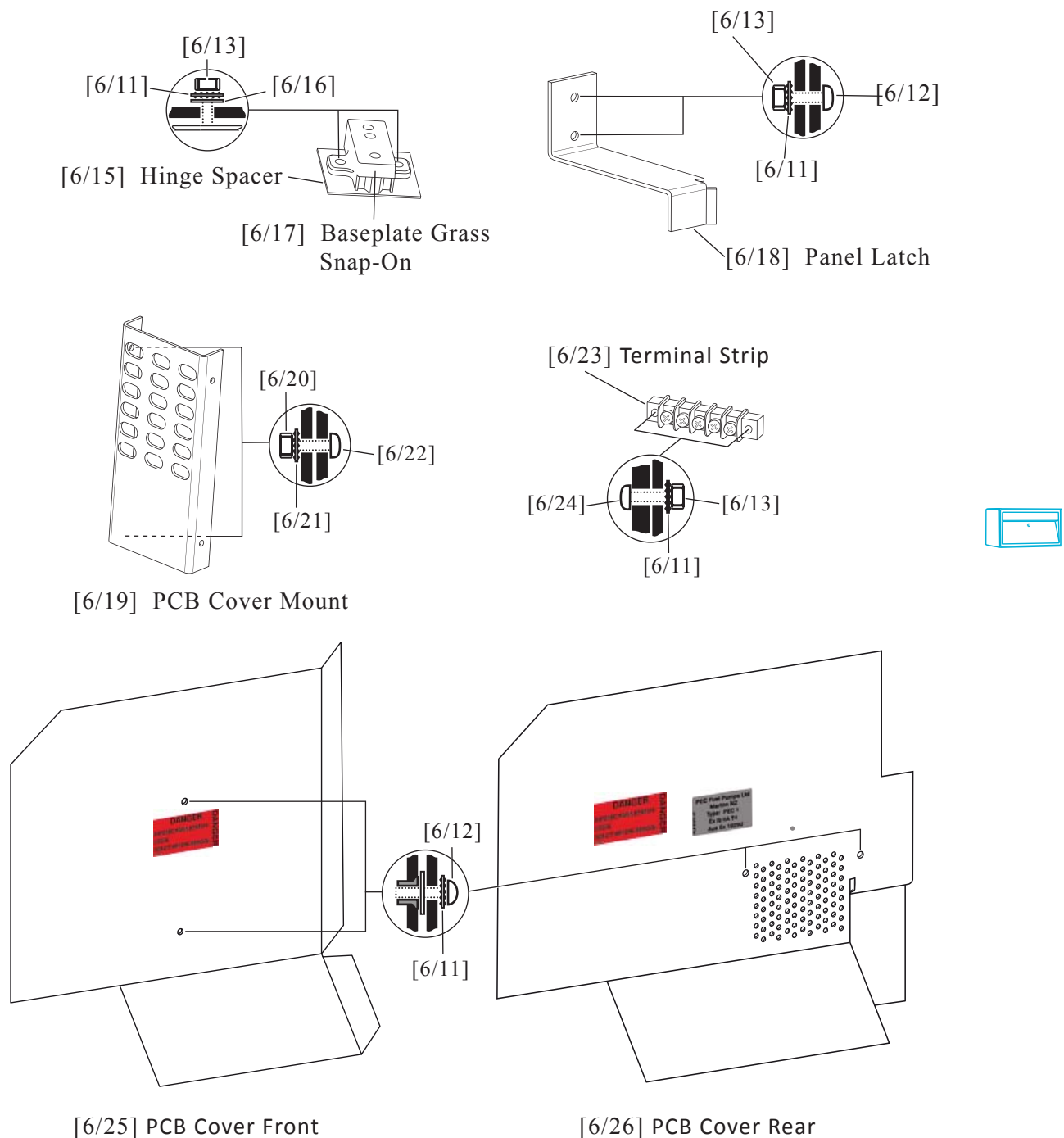


Figure 85. 1000 Series Head Hinges, Brackets and Fixings

Head PCBs

Four PCBs are located in the head (AC Control, Power Regulator, Main Processor and Power Supply) and they are illustrated, along with their fixings, in figure 86.

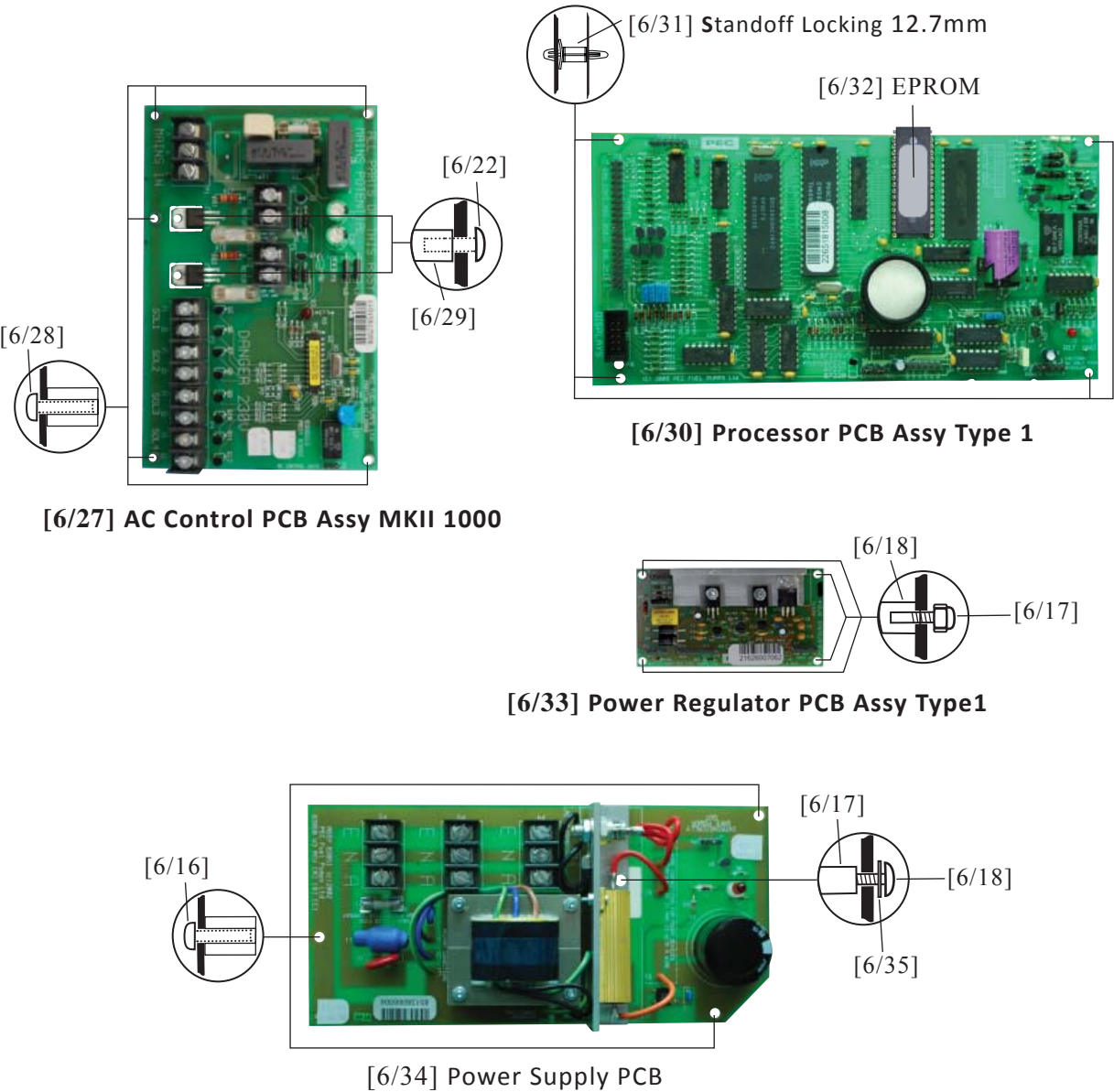


Figure 86. Head PCBs

The EPROM containing the FDS software is located on the Main Processor PCB (see figure 86 [6/32]).

Software version applicability is detailed in Table 6 overleaf.



This manual does not cover older CEEPEC variants, up to and including models with serial numbers beginning with 'C'. For clarity, an exception to this is the following table which details the newest version of the software available for the older models.

<i>Model</i>	<i>Comms Protocol</i>	<i>Software Required</i>	<i>Item No.</i>
Serial No's beginning with 'C' With Input Processor PCB (28-Pin Main processor PCB EPROM Socket)	PEC	vP2.35c (Main processor) and vI1.29s(Input Processor) set	[6/32a]
	Gilbarco	vG2.35c (Main processor) and vI1.29s(Input Processor) set	[6/32b]
Serial No's beginning with 'C' Without Input Processor PCB (28-Pin Main processor PCB EPROM Socket)	PEC	vP2.61c*	[6/32c]
	Gilbarco	vG2.61c*	[6/32d]
Serial No's beginning with 'D' With Input Processor PCB (32-Pin Main processor PCB EPROM Socket)	PEC or Gilbarco	vC2.61c*	[6/32e]

Table 13. Software Version Applicability



vX2.61c is the latest released version at the time of writing. This version is liable to 'increment' but the relevant part number will remain constant to ensure the latest released version is always supplied.



6.1.1 Parts List - Head Cabinet

Part Description	Part No.	Page No.	Item No.
Battery Assy 1000/8000/9000	2A88230	98	[6/1]
Cable Tie 140mm	4G23620	98	[6/2]
Cable Tie 100mm	4G23640	98	[6/3]
Fluo Tube Mounting Bracket White	P83666	98	[6/4]
Light Tube Lead Assy Long	2A83782	98	[6/5]
Light Tube Lead Assy Short	2A83783	98	[6/6]
Fluorescent 26 Dia x 600 X 18W	4G65650	98	[6/7]
Fluo Tube Cover	4G83667	98	[6/8]
Screw Posi Pan Head M4 x 12 Phil HD S/S	5D01660	98	[6/9]
Lighting Box Sub/Assy	2A83781	98	[6/10]
Washer Internal Lock M4	5C04500	98	[6/11]
Screw Posidrive Pan Head M4 x 12	5D00650	98	[6/12]
Nut Full Steel M4 ZP	5B03160	98	[6/13]
Fluorescent Starter 4-80W	4G55160	98	[6/14]
Hinge Spacer (Head)	4G83637	99	[6/15]
Washer Flat Steel M4 x 11m OD	5C04410	99	[6/16]
Baseplate Grass Snap On -99	4G25400	99	[6/17]
Face Panel Latch	4G83655	99	[6/18]
PCB Cover Mount	2M83665	99	[6/19]
Nut Full Steel M3 ZP	5B03140	99	[6/20]
Washer Internal Lock M3	5C00013	99	[6/21]
Screw Steel M3 x 8 Pan HD	5D00540	99	[6/22]
Terminal Strip 5W X 1	4E62820	99	[6/23]
Screw Posidrive Pan HD M4 x 16	5D00660	99	[6/24]
PCB Cover (Front)	P83664	99	[6/25]
PCB Cover (Rear)	P83674	99	[6/26]
AC Control PCB Assy MKII 1000	P83866	100	[6/27]
Screw Posidrive Pan Head M4 x 10	5D01710	100	[6/28]
Mounting Boss	2A83638	100	[6/29]
Processor PCB Assy Type 1	P87226	100	[6/30]
Standoff Locking 12.7mm	4G60595	100	[6/31]
EPROM vP2.35c (Main Processor) and vI1.29s (Input Processor) set	P87380HSD	100	[6/32a]
EPROM vG2.35c (Main Processor) and vI1.29s (Input Processor) set	P83580HS	100	[6/32b]
EPROM vP2.61c*	P87380	100	[6/32c]
EPROM vG2.61c*	P83580X	100	[6/32d]
EPROM vC2.61c*	P92380	100	[6/32e]
Power Regulator PCB Assy Type1	P87216	100	[6/33]
Power Supply PCB Assy MK2	P83851	100	[6/34]
Washer Flat Steel M3 x 9mm OD	5C04400	100	[6/35]



6.2 Head Door Assemblies

The Head Cabinet Door Assemblies include the basic door frame, fixings and fittings to complete the structure of the door.

They do NOT include the Graphic Panel which should be ordered separately. Graphic Panels are detailed later in this section.

Historically there were both single and dual-display versions of the metalwork. Currently only dual-display metalwork is used in conjunction with blanking plates and the appropriate graphic panel to create the correct combination. Tote windows should be blanked off with lightproof tape if not required. Details of the graphics panels follow figure 88.



Earlier metalwork was only suitable for the earlier 5-digit displays, the present metalwork accommodates the current 6-digit displays. 5-digit display PCBs can be used with the newer metalwork provided that a 5-digit display graphic is also used. 6-digit Display cannot be used with 5-digit metalwork.

Door frames are only available as complete assemblies. However, all parts, except the basic door frame metalwork, are available as individual spare parts and are shown in figure 88.

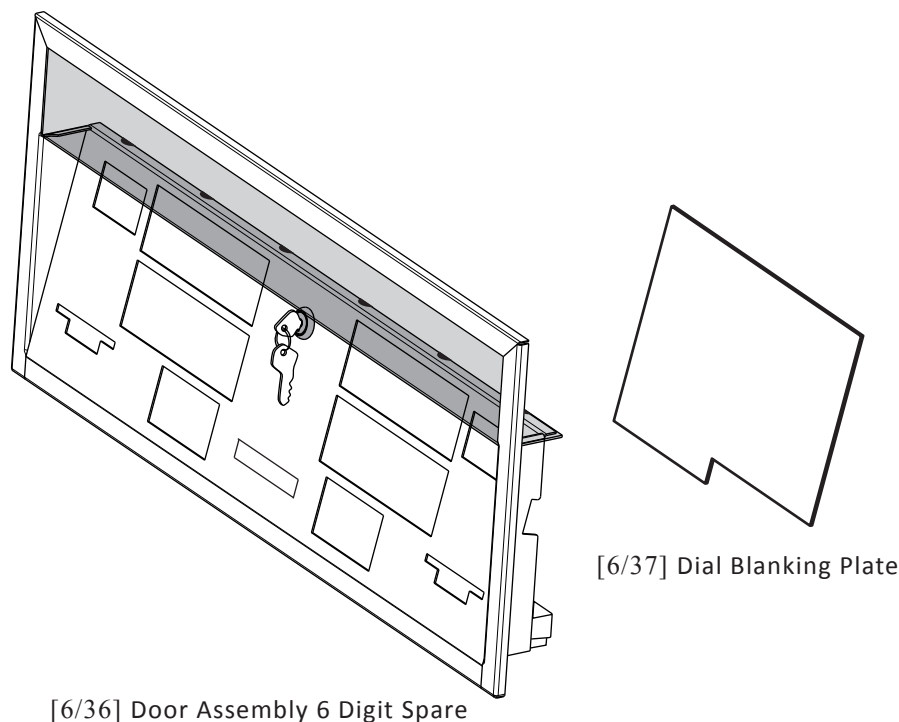


Figure 87. Head Cabinet Door Assembly and Blanking Plate



Note that Door Assemblies do not include Graphics Panels, Blanking Plate(s), PCBs, Keypads or Cables.



If replacement Ad Panels are required, please contact Gallagher directly.

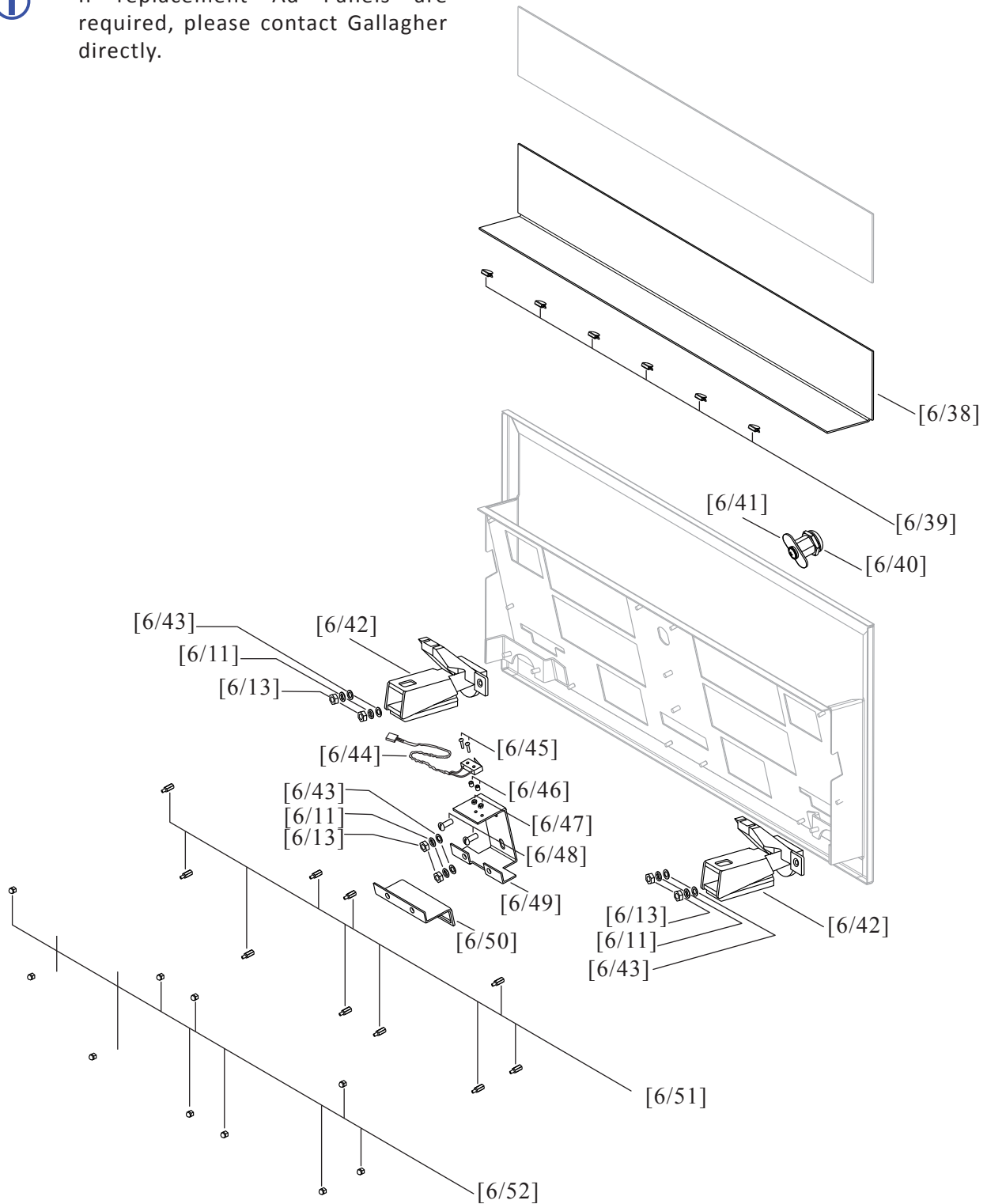


Figure 88. Head Cabinet Door Assembly - Parts

Graphic Panels

Graphic Panels are fixed to the Head Cabinet Doors. Replacement panels are available for the current 6-digit displays and the older 5-digit displays.

The following table details the different options available.

Figure 89 displays the various Graphic Panels available for the 1000 Series.

<i>5 Digit</i>	<i>With Tote</i>		<i>Non Tote</i>	
	<i>Preset</i>	<i>Non Preset</i>	<i>Preset</i>	<i>Non Preset</i>
Dual Front	3B83404	3B83402		
Dual Rear			3B83405	3B83403
Single Front	3B83406	3B83425		
Single Rear			3B83407	3B83426

<i>6 Digit</i>	<i>With Tote</i>		<i>Non Tote</i>	
	<i>Preset</i>	<i>Non Preset</i>	<i>Preset</i>	<i>Non Preset</i>
Dual Front	2A83981	2A83402		
Dual Rear			2A83984	2A83403
Single	2A83993		2A83994	
Ultra Front	2A83877	2A83872		
Ultra Rear			2A83881	2A83875

Ultra Blank	2A83980
-------------	---------



Table 14. Graphic Panel Options

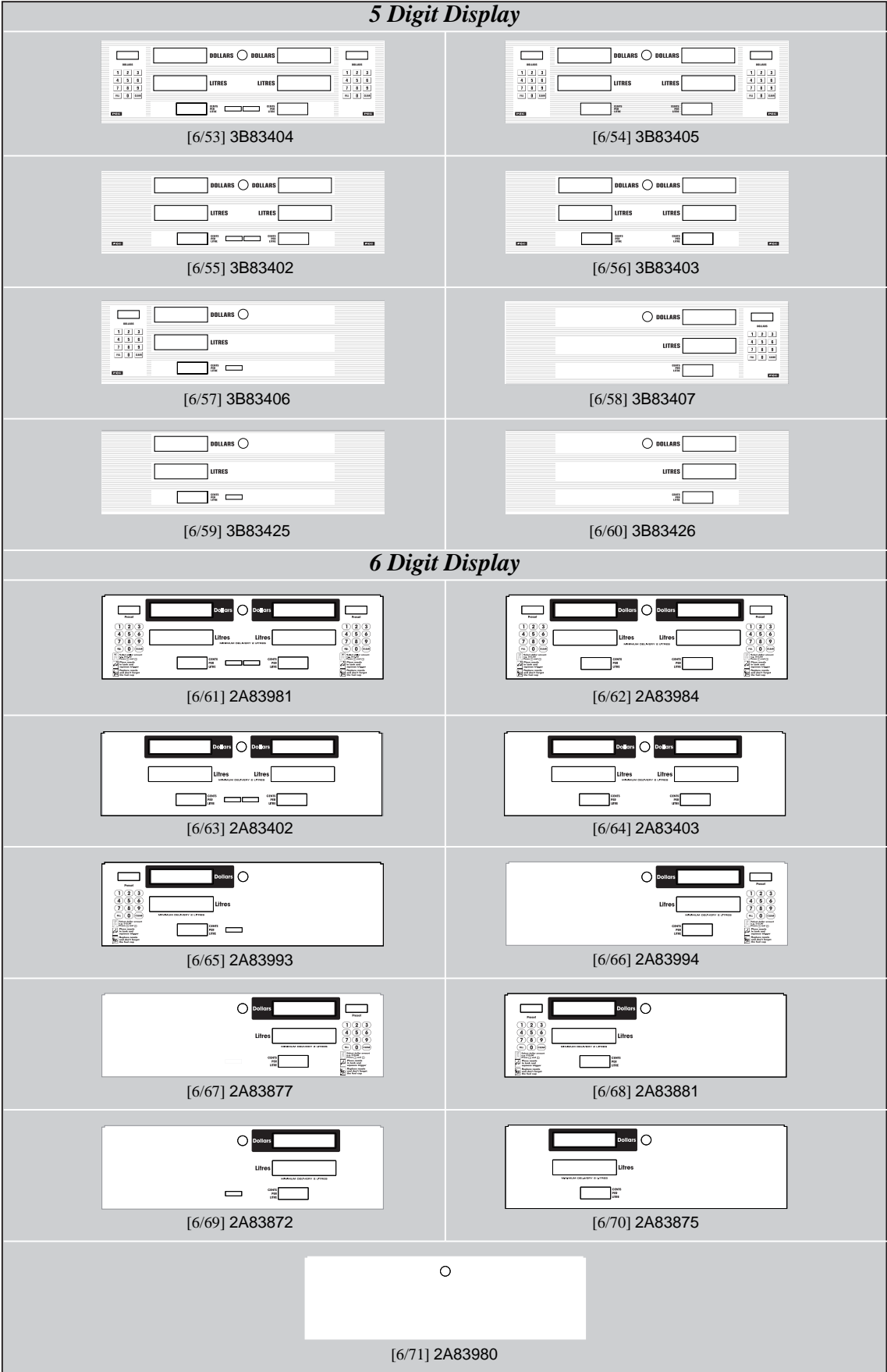


Figure 89. Graphic Panels - 5 & 6 Digit

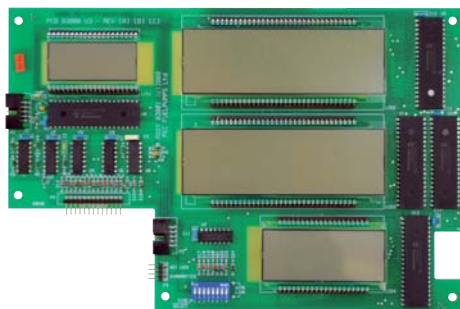
Display PCBs

The Display PCBs are located on the 1000 series head doors. There are different PCBs for the left-hand and right-hand displays.

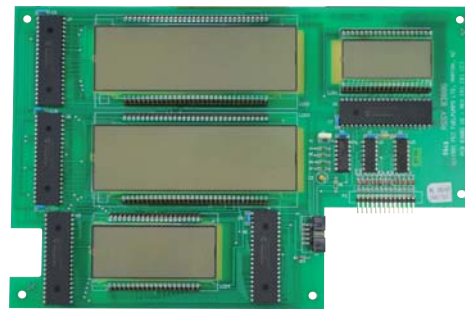
Any 1000 Series model must include paired LH and RH Display PCBs, linked with a display cable, even if the RH Display PCB is obscured by blanking panels. Some models include two pairs.

In earlier 1000 Series models, Tote Assemblies were part of the Tote PCB and were not available separately as a spare part. However, this practice became obsolete and both single and dual Totes are now available as spare part assemblies, including mounting brackets. Individual components are also available.

Figures 90 and 91 show the arrangement of the 5 and 6 Digit displays in typical 1000 Series configurations.



[6/72]
Display/Preset PCB
Assembly LH

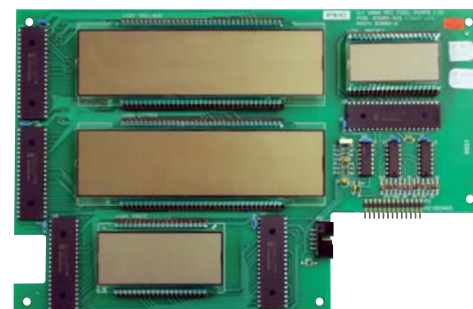


[6/73]
Display/Preset PCB
Assembly RH

Figure 90. Display PCBs - 5 Digit



[6/74]
Display/Preset PCB
Assembly 6 Digit LH



[6/75]
Display/Preset PCB
Assembly 6 Digit RH

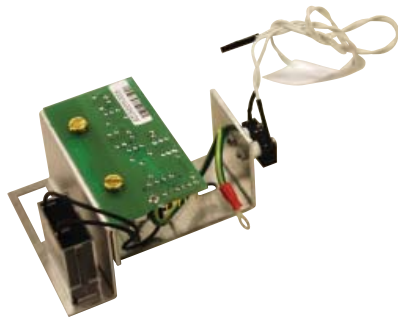
Figure 91. Display PCBs - 6 Digit



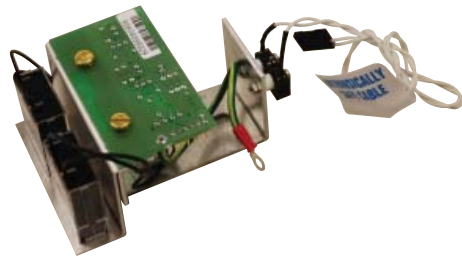
Tote Assemblies, Brackets and Keypad

Figure 92 shows the Tote Assemblies, brackets and keypad.

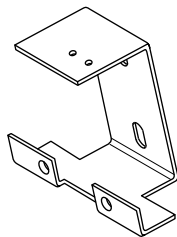
The Dual UHF Dispenser variant uses a different Tote Cable to that used on other models, as there is a tote on each head door. Also, the second Manager Switch is not present on the rear door.



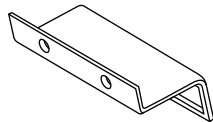
[6/76] Tote Assembly
Single



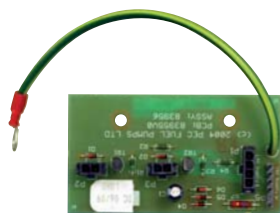
[6/77] Tote Assembly
Dual



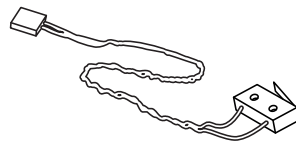
[6/49] Tote Mounting
Bracket MkII



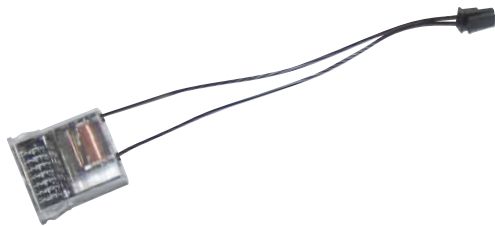
[6/50] Tote Mounting
Bracket MkIII



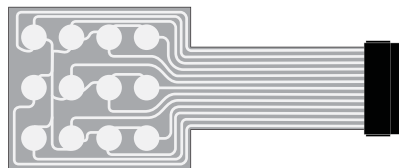
[6/78] Tote PCB



[6/44] Cable Manager
Switch



[6/79] Tote Counter Assembly



[6/80] Keypad

Figure 92. Tote Assemblies, Brackets, Keypad & Cable Manager Switch

6.2.1 Parts List - Head Door Assembly

Part Description	Part No.	Page No.	Item No.
CEEPEC Head Door Assembly 6 Digit - Spare	P83983	103	[6/36]
Dial Blanking Plate	4G83837	103	[6/37]
CEEPEC II Case Window	4G80235	104	[6/38]
Edge Clip	4E24140	104	[6/39]
Lock F & R - CEEPEC	4G25960	104	[6/40]
Locking Cam Plated	4G83659	104	[6/41]
Hinge Grass Snap On -99	4G25410	104	[6/42]
Washer Flat Steel M4 x 9mm OD	5C04570	104	[6/43]
Cable Manager Switch	2A83211	104	[6/44]
Screw M2 5x16 Pan HD	5D00115	104	[6/45]
Spacer 3BV05 Hi Q Nylon	4G65850	104	[6/46]
Nut Full Steel M2.5 ZP	5B03130	104	[6/47]
Screw Brass M4x8 Pan HD	5D00380	104	[6/48]
Tote Mounting Bracket Mk II	4G83598	104	[6/49]
Tote Mounting Bracket Mk III	4G83584	104	[6/50]
Space Nylon M+F SMF6 13	4G66570	104	[6/51]
Nut Dome Nylon PNN632C	5B03520	104	[6/52]
5 Digits Graphic Panel Dual Front Preset	3B83404	106	[6/53]
5 Digits Graphic Panel Dual Rear Preset	3B83405	106	[6/54]
5 Digits Graphic Panel Dual Front Non Preset	3B83402	106	[6/55]
5 Digits Graphic Panel Dual Rear Non Preset	3B83403	106	[6/56]
5 Digits Graphic Panel Single Front Preset	3B83406	106	[6/57]
5 Digits Graphic Panel Single Rear Preset	3B83407	106	[6/58]
5 Digits Graphic Panel Single Front Non Preset	3B83425	106	[6/59]
5 Digits Graphic Panel Single Rear Non Preset	3B83426	106	[6/60]
6 Digits Graphic Dual Tote Preset	2A83981	106	[6/61]
6 Digits Graphic Dual Non Tote Preset	2A83984	106	[6/62]
6 Digits Graphic Dual Tote Non Preset	2A83402	106	[6/63]
6 Digits Graphic Dual No Tote Non Preset	2A83403	106	[6/64]
6 Digits Graphic Single Tote Preset	2A83993	106	[6/65]
6 Digits Graphic Single Non Tote Preset	2A83994	106	[6/66]
6 Digits Graphic Ultra Tote Preset 6 Digits	2A83877	106	[6/67]
6 Digits Graphic Ultra Mirrored Preset	2A83881	106	[6/68]
6 Digits Graphic Ultra Tote Non Preset	2A83872	106	[6/69]
6 Digits Graphic Ultra Mirrored Non Preset	2A83875	106	[6/70]
Graphic Ultra Blank	2A83980	106	[6/71]
Display/Preset PCB Assy LH	P83801	107	[6/72]
Display/Preset PCB Assy RH	P83806	107	[6/73]
Display/Preset PCB Assy 6 Digit LH	P838016	107	[6/74]
Display/Preset PCB Assy 6 Digit RH	P838066	107	[6/75]
Tote Assembly Single	P839561	108	[6/76]



<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
Tote Assembly Dual	P839562	108	[6/77]
Tote PCB Assy MkIII	P83956	108	[6/78]
Tote Counter Assy	2A92200	108	[6/79]
Keypad	2M87195	108	[6/80]



6.3 Cables

Various cables are contained within the head of a 1000 Series FDS, as shown in figure 93. Note that cables which are not entirely contained within the head (i.e. those that run through the glands and down into the body) are not detailed in this section - refer to section 4.12 for full details of these cables.

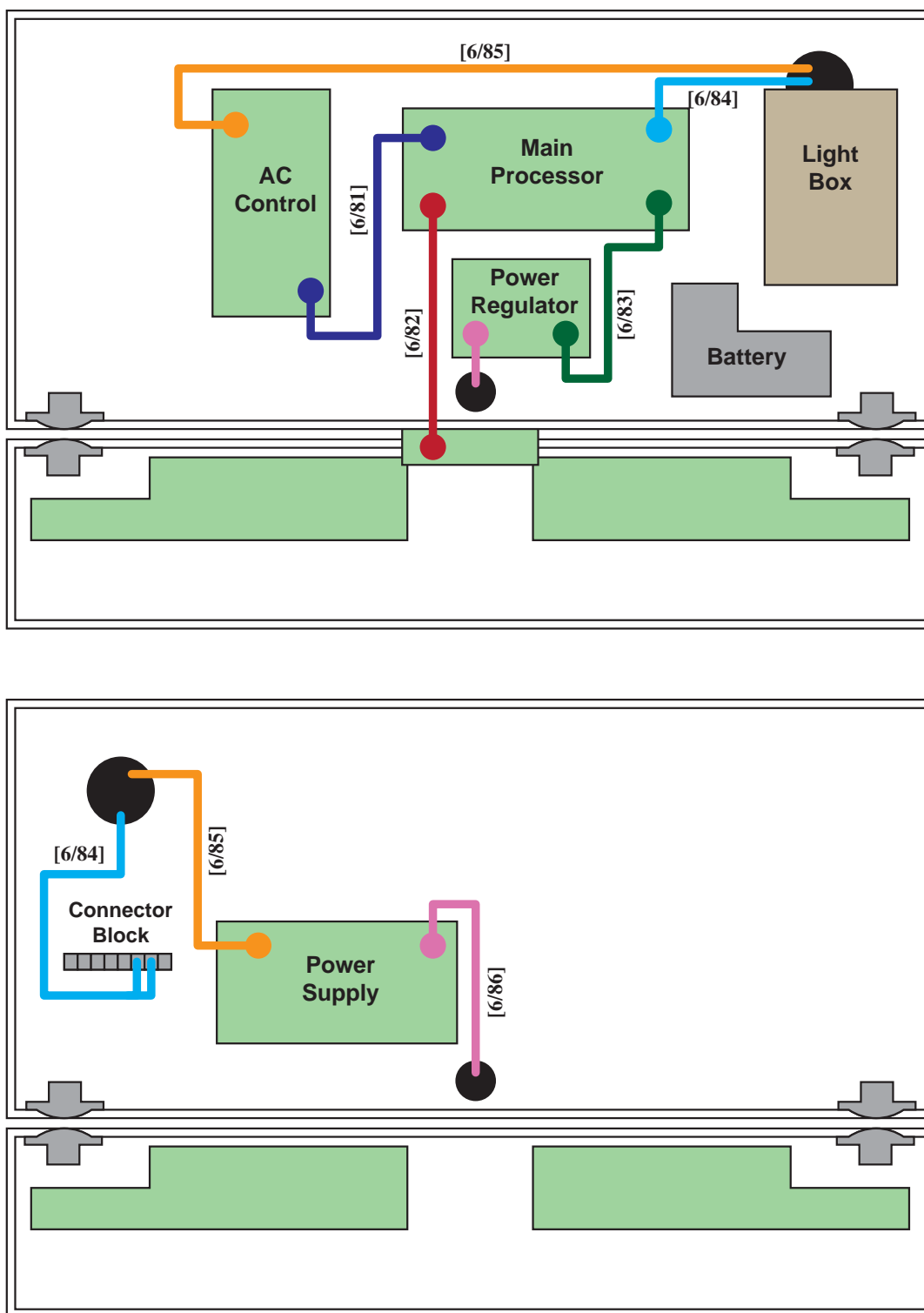


Figure 93. 1000 Series Head Cables - Layout

Head Display Cables

The Head Display Cables are 10-way ribbon cables that connect either display PCB(s) to the main processor PCB or lefthand and righthand display PCBs.

Three are available, which are fitted into various configurations of 1000 Series FDS as shown in figure 94 below.

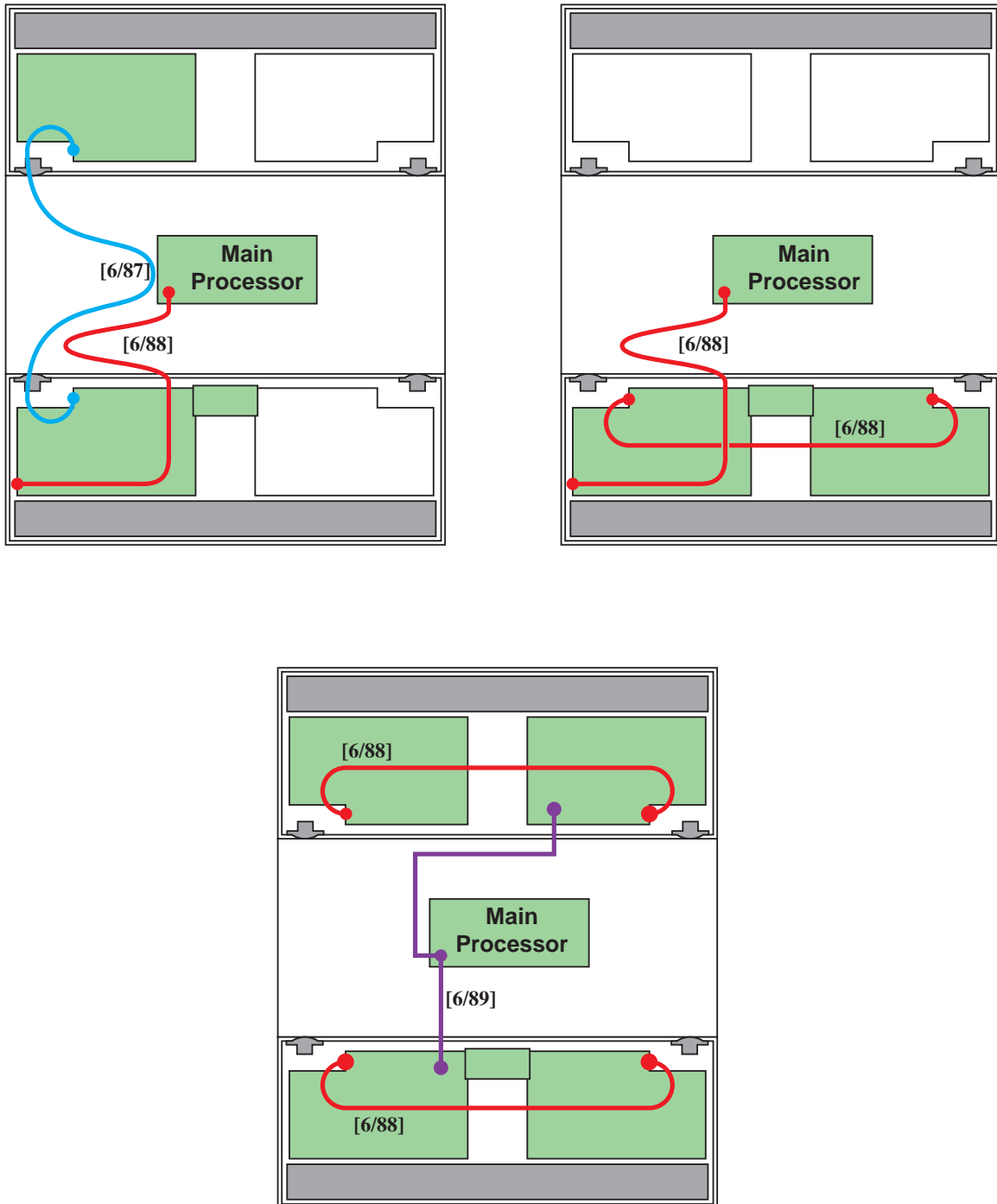


Figure 94. 1000 Series Head Display Cables - Layout

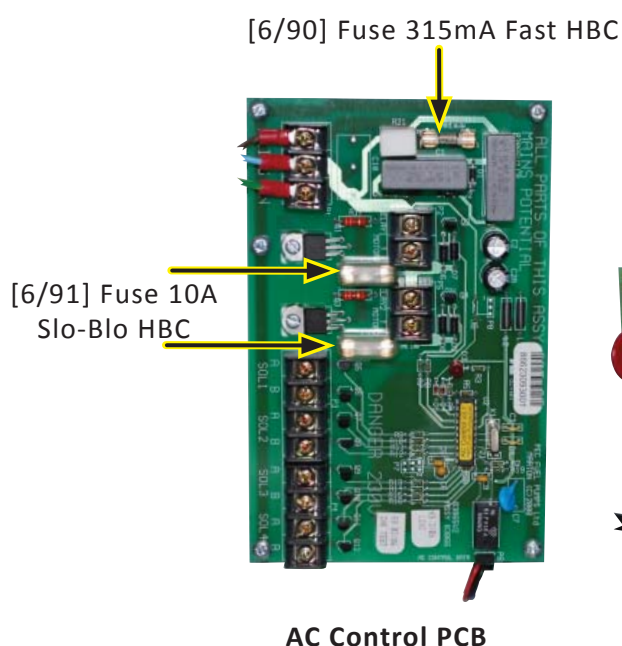
6.3.1 Parts List - Cables (Head)

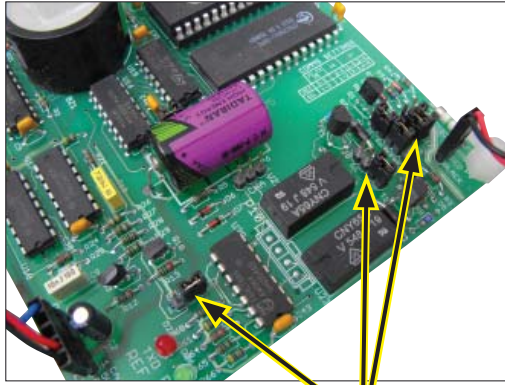
<i>Part Description</i>	<i>Part No.</i>	<i>Page No.</i>	<i>Item No.</i>
Cable AC Control CEEPEC	4E83201	111	[6/81]
Cable Totes CEEPEC	2K83203	111	[6/82]
Cable Assy Reg to Processor	4G00502	111	[6/83]
Cable Pump Comms CEEPEC	2K83202	111	[6/84]
Cable Mains Link AC Control CEEPEC	2A83218	111	[6/85]
Cable CPU Power CEEPEC	4G00503	111	[6/86]
Cable Display Long CEEPEC	2A83205	112	[6/87]
Cable Display Short CEEPEC	2A83206	112	[6/88]
Cable CPU/Display CEEPEC	2A83204	112	[6/89]

6.4 Other Electrical

Several electrical items not covered in the preceeding sections are also located within the head of a 1000 series FDS:

- (a) Fuses - on the Power Supply PCB and the AC Control PCB;
- (b) Varistor -
- (c) Processor Jumpers -
- (d) Logic (Air Sense) Jumpers -





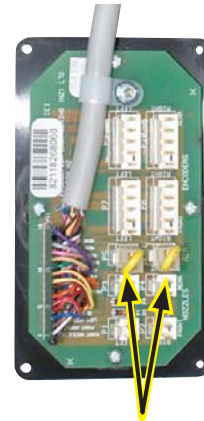
Location on Processor PCB



[6/94] Processor Jumpers



[6/95] Air Sense Jumpers



Location on Logic Board

6.4.1 Parts List - Other Electrical



Part Description	Part No.	Page No.	Item No.
Fuse 315mA Fast HBC	2M66095	113	[6/90]
Fuse 10A Slo-Blo HBC	2M66085	113	[6/91]
Fuse 250mA Ceramic	2M65275	113	[6/92]
Varistor Mov V275LA 40A	2B40885	113	[6/93]
Processor Jumper	4E63290	114	[6/94]
Logic Board Jumper (Air Sense)	2A87326	114	[6/95]

6.5 CEEPEC II Door Assembly

Note:-

- Assembly shown with tote assembly which may not be fitted in all cases.
- Graphic space panel shown without vinyl graphic (different part #).
- CEEPEC ad panel shown without vinyl graphic (different part #).
- Lanyard and earth strap may be on other end.

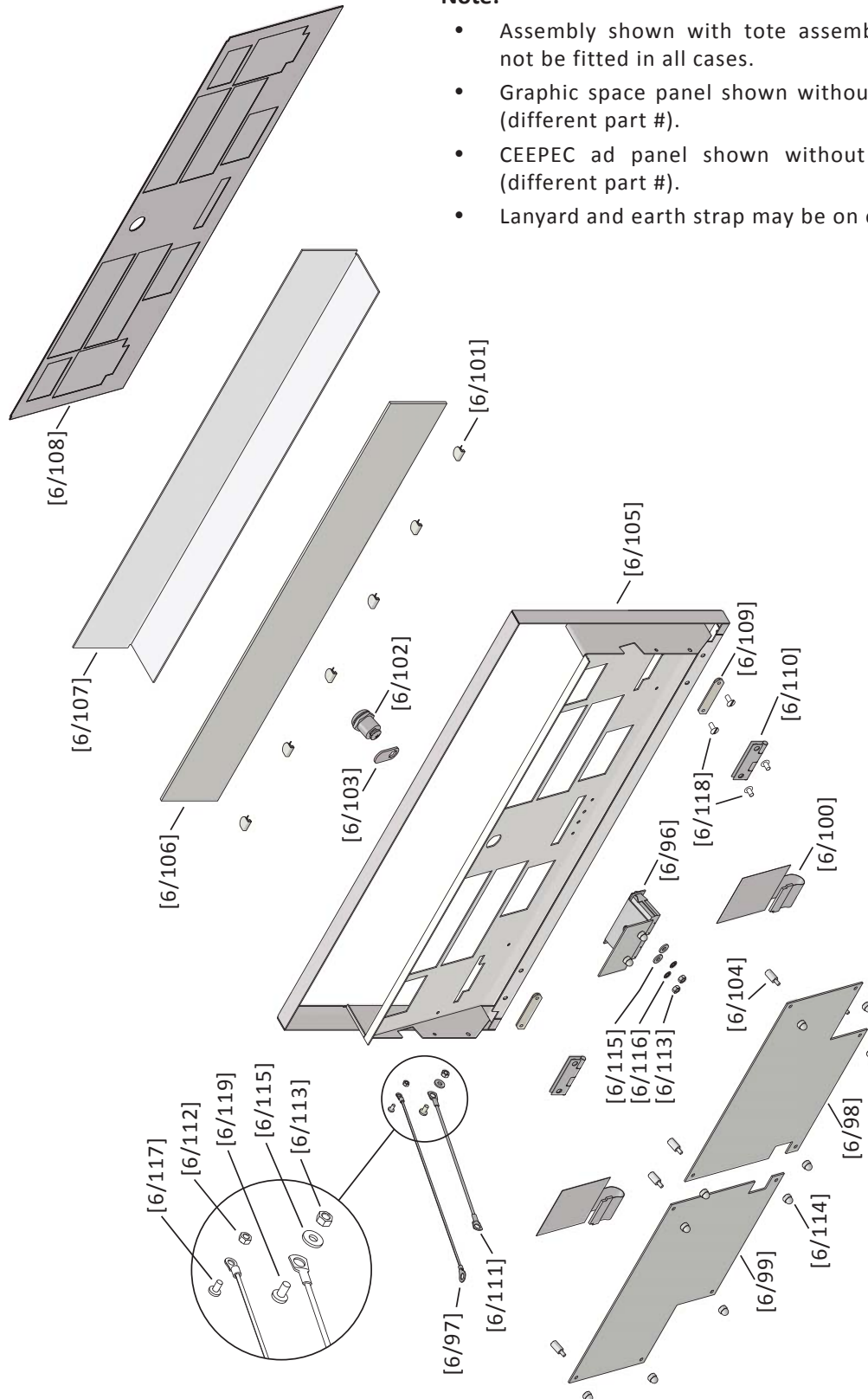


Figure 95. CEEPEC II Door Assembly

6.5.1 Parts List - CEEPEC II Door Assembly

Part Description	Part No.	Page No.	Item No.
Tote Asm	2A80208	115	[6/96]
Ceepec Lanyard	2A80231	115	[6/97]
Display/Preset LH	2A838016	115	[6/98]
Display/Preset RH	2A838066	115	[6/99]
Membrain Keypad	2M87195	115	[6/100]
Edge Clip	4E24140	115	[6/101]
Lock A/CR19/01/3C/No3	4G25960	115	[6/102]
Lock A/CR19/01/3C/No3 Tab	4G25960-T	115	[6/103]
Spacer Nylon M & F 6-13	4G66570	115	[6/104]
Ceepec Door Weld	4G80205	115	[6/105]
Ceepec Ad Panel	4G80230	115	[6/106]
Ceepec Case Window	4G80235	115	[6/107]
Graphic Spacer Panel	4G80236	115	[6/108]
Hinge Clamping Plate	4G87711	115	[6/109]
Hinge - SS - 32 x 50 x 0.9	4G88372	115	[6/110]
Bonding Cable	4G92679	115	[6/111]
Nut M3	5B03140	115	[6/112]
Nut M4	5B03160	115	[6/113]
Nut Dome Nylon PNN632C-Q	5B03520	115	[6/114]
Washer Flat Steel M4 x11OD	5C04410	115	[6/115]
M4 Internal Lock Washer	5C04500	115	[6/116]
Screw Posidrive M3 x 6 Pan HD	5D00530	115	[6/117]
Screw SS M4 x 10 CSK HD	5D01840	115	[6/118]
Screw Posi Pan HD M4x8 SS	5D01950	115	[6/119]

6.6 CEEPEC II Head Front

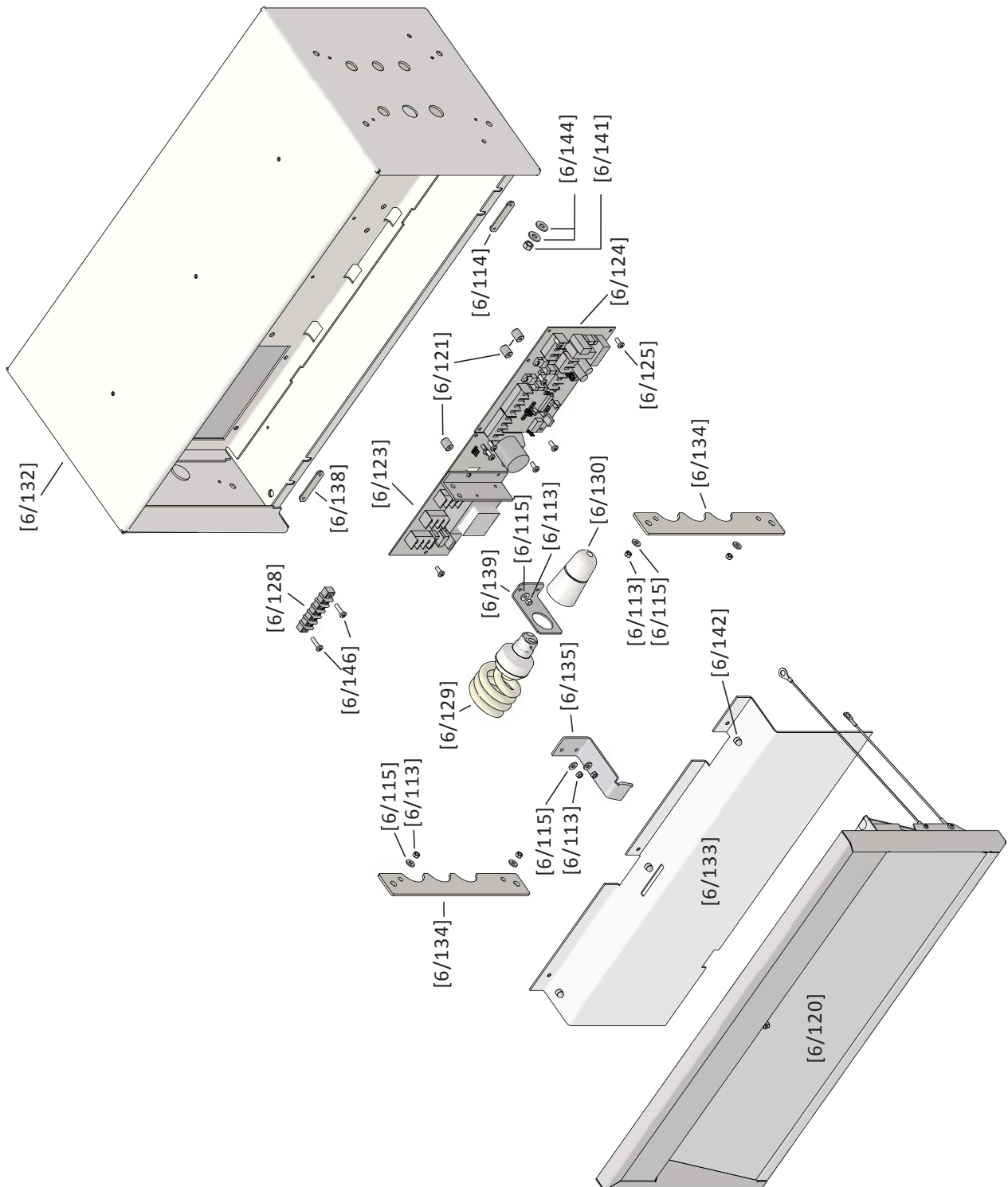


Figure 96. CEEPEC II Head Front

6.7 CEEPEC II Head Rear

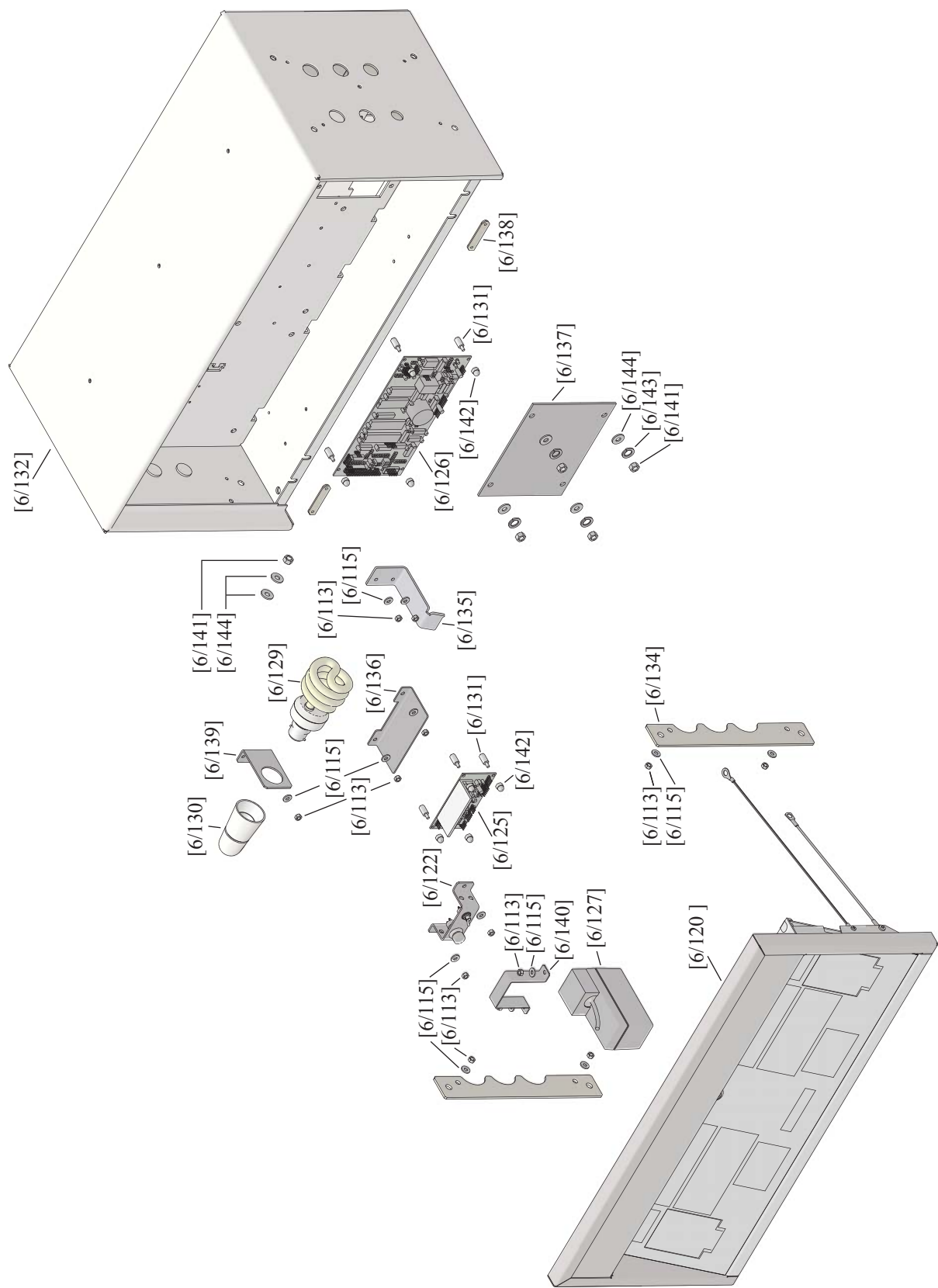


Figure 97. CEEPEC II Head Rear

6.7.1 Parts List - CEEPEC II Head (Front & Rear)

Part Description	Part No.	Page No.	Item No.
Ceepec Door Asm.	2A80204	117	[6/120]
Stand Off	2A80213	117	[6/121]
Manager Switch Asm	2A80219	118	[6/122]
Power Supply PCB Asm	2A83851	117	[6/123]
AC Control PCB Asm	2A83866	117	[6/124]
Power Regulator PCB Asm	2A87216	117	[6/125]
Processor PCB Asm	2A87226	118	[6/126]
Battery Asm	2A88230	118	[6/127]
Terminal Strip 5W x 1	4E62820	117	[6/128]
Fluro Light 18W	4G59570	117	[6/129]
Lampholder BC	4G66109	117	[6/130]
Spacer Nylon M & F 6-13	4G66570	118	[6/131]
Ceepec Head Weld	4G80200	117	[6/132]
Mains PCB Cover	4G80210	117	[6/133]
Head Brace	4G80211	117	[6/134]
Lock Catch	4G80217	117	[6/135]
Lamp Guard	4G80225	118	[6/136]
Cover Plate	4G80226	118	[6/137]
Hinge Clamping Plate	4G87711	117	[6/138]
Light Mgt Brkt	4G92754	117	[6/139]
Battery Strap	4G98136	118	[6/140]
Nut M4	5B03160	117	[6/113]
Nut M6	5B03230	117	[6/141]
Nut Dome Nylon PNN632C-Q	5B03520	117	[6/142]
Washer Spring M6	5C04200	118	[6/143]
Washer Flat Steel M4 x11OD	5C04410	117	[6/115]
Washer Flat Steel M6 x16OD	5C04460	117	[6/144]
Screw Slot Pan Head M3x8	5D00540	117	[6/145]
Screw Posi Pan Head M4x16	5D00660	117	[6/146]
Screw Posi Pan Head M4x10	5D01710	117	[6/147]

7 HOSES & NOZZLES

A range of hoses are used in the 1000 Series model range, largely depending on the hose attachment method in place (see section 7.1).

Various nozzles are also available, as described in section 7.2, along with the range of splashguards and covers available.

The hoses may be fitted with safety breaks or swivels, which are described in section 7.3.

7.1 Hoses

Many of the hoses are also available with either Rayon or Metal braided re-enforcement.

The following illustration shows which options are available for each attachment method.

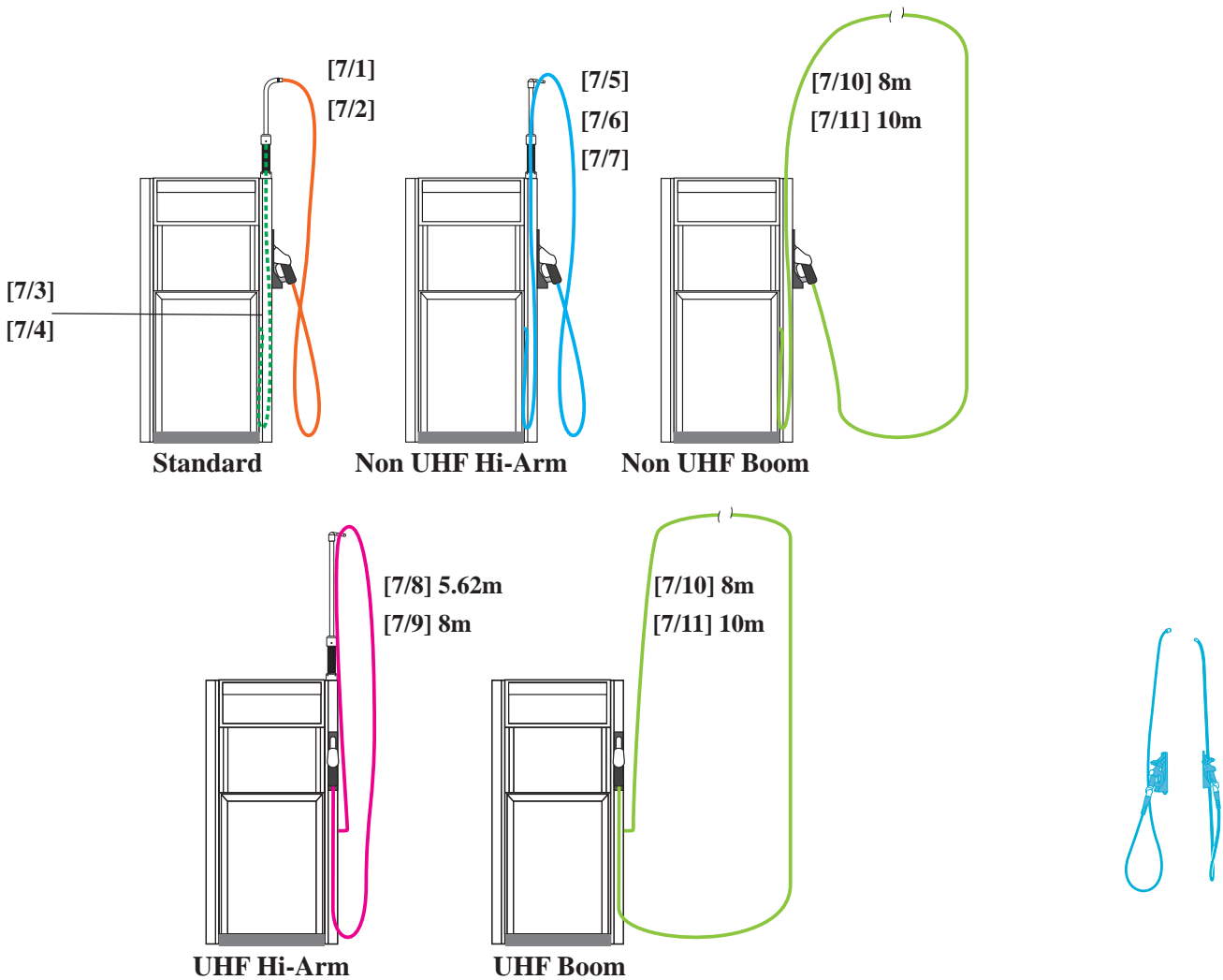


Figure 98. 1000 Series Hose options

7.1.1 Parts List - Hoses

<i>Part Description</i>	<i>Part No</i>	<i>Page No.</i>	<i>Item No.</i>
External Hose Assy 5/8" Rayon Braid 3.45m	2A83919AR	120	[7/1]
External Hose Assy 5/8" Wire Braid 3.45m	2A83919AS	120	[7/2]
Internal Hose Assy 5/8" Rayon Braid 2m	4G83669	120	[7/3]
Internal Hose Assy 1" Wire Braid 2m	2A83669SH	120	[7/4]
Hi-Arm Hose 5/8" Rayon Braid 6.4m	2A83921AR	120	[7/5]
Hi-Arm Hose 5/8" Wire Braid 6.4m	2A83921AS	120	[7/6]
Hi-Arm Hose 1" Wire Braid 6.4m	2A83926AS	120	[7/7]
Ultra High Hose Assy 1" Wire Braid 5.62m	2A83900	120	[7/8]
Ultra High Hose Assy 1" Wire Braid 8m	2A8390008	120	[7/9]
Hi-Arm Hose Assy 1" Wire Braid 8m	2A83926AC	120	[7/10]
Hi-Arm Hose Assy 1" Hi-Boom Wire Braid 10m	2A83926AX	120	[7/11]



7.2 Nozzles

Four types of nozzle are available for the 1000 Series range, as shown in figure 96.



[7/12] ZVA Nozzle 3/4" Standard



[7/13] ZVA Nozzle 3/4" Reduced



[7/14] ZVA Nozzle Drip Stop



[7/15] ZVA Nozzle 1"

Figure 99. ZVA Slimline II Nozzles

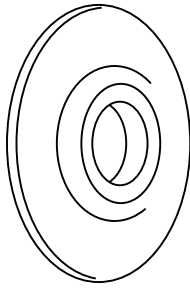
Earlier 1000 models may have ZVA Slimline I nozzles which differ slightly to those shown. These nozzles are no longer available, having been superseded by the ZVA Slimline II models shown above.

However, replacement splashguards and ZVA covers are available for the older Slimline I nozzles.

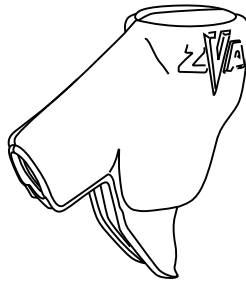
It should be noted that where a splashguard is not fitted to a black cover, a black Product Sleeve is supplied for fitting in its place.

Figure 97 shows the splashguards and covers available for the Slimline I models and figure 98 illustrates the covers for the Slimline II models.





[7/16] ZVA Splashguard



[7/17] ZVA Cover



[7/20] ZVA Product Badge

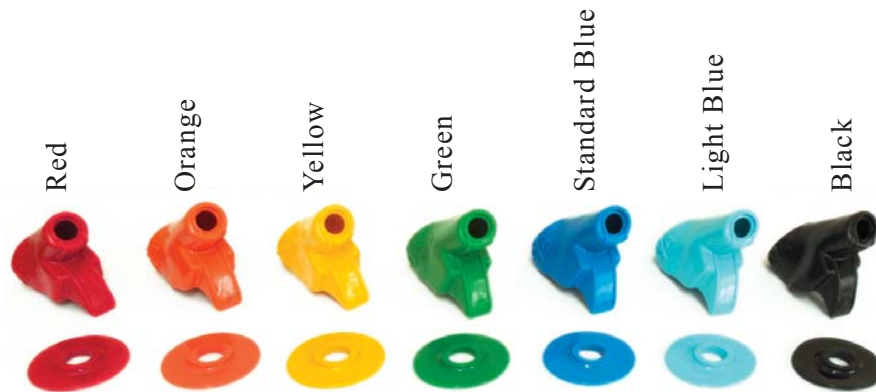
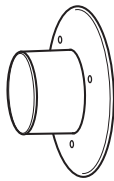
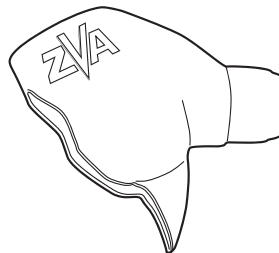


Figure 100. Covers and Splashguards (Slimline I)



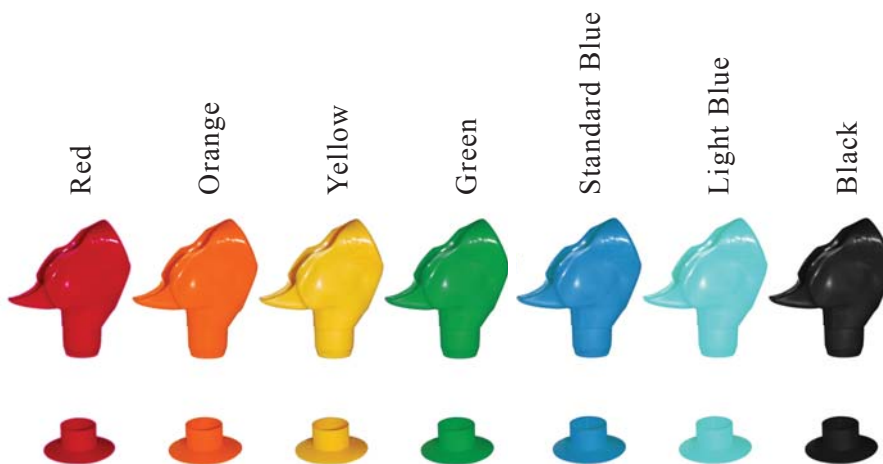
[7/18] ZVA Splashguard



[7/19] ZVA Cover



[7/20] ZVA Product Badge



[7/21] ZVA Product Sleeve

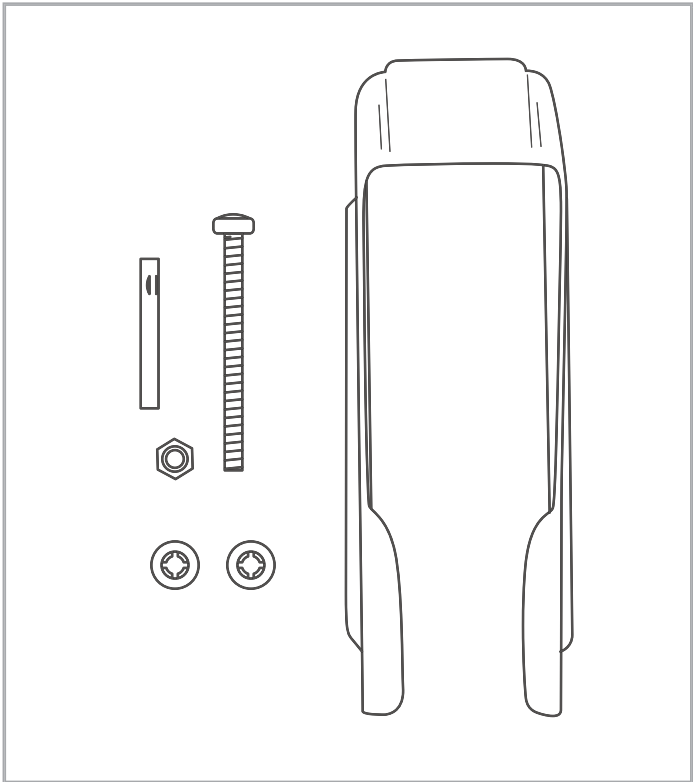
Figure 101. Covers and Splashguards (Slimline II)





[7/22] Hose Sealing Washer $\frac{3}{4}$ " [7/23] Hose Sealing Washer 1"

Figure 102. Hose Sealing Washers



[7/24] Positrip Replacement Kit



Figure 103. Positrip Replacement Kit (NZ Only)

7.2.1 Parts List - Nozzles

Part Description	Part No.	Page No.	Item No.
ZVA Nozzle (Drip Stop)	4G00560	122	[7/12]
ZVA Nozzle ¾" Standard	4G00555	122	[7/13]
ZVA Nozzle ¾" Reduced	4G00550	122	[7/14]
ZVA Nozzle 1"	4G00052	122	[7/15]
Old Splashguard (black)	● 4G29590	123	[7/16a]
Old ZVA Cover (black)	● 4G00063	123	[7/17a]
Old Splashguard (red)	● 4G29580	123	[7/16b]
Old ZVA Cover (red)	● 4G00068	123	[7/17b]
Old Splashguard (green)	● 4G29560	123	[7/16c]
Old ZVA Cover (green)	● 4G00066	123	[7/17c]
Old Splashguard (yellow)	● 4G29570	123	[7/16d]
Old ZVA Cover (yellow)	● 4G00070	123	[7/17d]
Old Splashguard (orange)	● 4G29553	123	[7/16e]
Old ZVA Cover (orange)	● 4G00324	123	[7/17e]
Old Splashguard (light blue)	● 4G29552	123	[7/16f]
Old ZVA Cover (light blue)	● 4G00323	123	[7/17f]
Old Splashguard (standard blue)	● 4G29550	123	[7/16g]
Old ZVA Cover (standard blue)	● 4G00064	123	[7/17g]
Splashguard (black)	● 4G30200	123	[7/18a]
ZVA Cover (black)	● 4G30300	123	[7/19a]
ZVA Product Sleeve (black)	● 4G30400	123	[7/21]
Splashguard (red)	● 4G30201	123	[7/18b]
ZVA Cover (red)	● 4G30301	123	[7/19b]
Splashguard (green)	● 4G30202	123	[7/18c]
ZVA Cover (green)	● 4G30302	123	[7/19c]
Splashguard (yellow)	● 4G30203	123	[7/18d]
ZVA Cover (yellow)	● 4G30303	123	[7/19d]
Splashguard (orange)	● 4G30207	123	[7/18e]
ZVA Cover (orange)	● 4G30307	123	[7/19e]
Splashguard (light blue)	● 4G30206	123	[7/18f]
ZVA Cover (light blue)	● 4G30306	123	[7/19f]
Splashguard (standard blue)	● 4G30204	123	[7/18g]
ZVA Cover (standard blue)	● 4G30304	123	[7/19g]
ZVA Product Badge	4G00074	123	[7/20]
NZFP Hose Sealing Washer ¾"	X0105	124	[7/22]
NZFP Hose Sealing Washer 1	X0106	124	[7/23]
Positrip Replacement Kit	P88057	124	[7/24]



7.3 Safety Breaks and Swivels

Hoses may be fitted with safety breaks, either straight or elbow types*, or swivels, although Gallagher recommends the use of safety breaks on all hoses.

*Note that UHF hoses are not available with elbow safety breaks.

Figure 101 shows the safety breaks and swivels available.



Figure 104. Safety Breaks and Richards Swivels

7.3.1 Parts List - Safety Breaks

<i>Part Description</i>	<i>Page No.</i>	<i>Page No.</i>	<i>Item No.</i>
ZVA Reducing Bush M42 x M34	4G00076	126	[7/25]
Elaflex ZVA SSB Straight Swivel Safety Break - 1"	4G29455	126	[7/26]
Elaflex ZVA SSB Straight Swivel Safety Break - 5/8"	4G29445	126	[7/27]
Elaflex ZVA ESB Elbow Swivel Safety Break - 5/8"	4G29465	126	[7/28]
Swivel - 5/8"	4G29675	126	[7/29]
Swivel - 1"	4G22410	126	[7/30]



8 REFERENCES

1. **2A91012:** *“1000 System Description (CEEPEC)”*, PEC Fuel Pumps Ltd, Issue 1
2. **2A91013:** *“1000 Installation Manual (CEEPEC)”*, PEC Fuel Pumps Ltd, Issue 1
3. **2A91014:** *“1000 Commissioning Manual (CEEPEC)”*, PEC Fuel Pumps Ltd, Issue 1
4. **2A91015:** *“1000 Servicing Manual (CEEPEC)”*, PEC Fuel Pumps Ltd, Issue 1

APPENDIX A - PARTS LIST BY PART DESCRIPTION

Part Description	Part Number	Page(s)	Item Number(s)
1/4 BSP Plug Plug for Flow Meter Tatsuno MP 02515 G	4G00667	56	[4/187]
5 Digits Graphic Panel Dual Front Non Preset	3B83402	106	[6/55]
5 Digits Graphic Panel Dual Front Preset	3B83404	106	[6/53]
5 Digits Graphic Panel Dual Rear Non Preset	3B83403	106	[6/56]
5 Digits Graphic Panel Dual Rear Preset	3B83405	106	[6/54]
5 Digits Graphic Panel Single Front Non Preset	3B83425	106	[6/59]
5 Digits Graphic Panel Single Front Preset	3B83406	106	[6/57]
5 Digits Graphic Panel Single Rear Non Preset	3B83426	106	[6/60]
5 Digits Graphic Panel Single Rear Preset	3B83407	106	[6/58]
6 Digits Graphic Dual No Tote Non Preset	2A83403	106	[6/64]
6 Digits Graphic Dual Non Tote Preset	2A83984	106	[6/62]
6 Digits Graphic Dual Tote Non Preset	2A83402	106	[6/63]
6 Digits Graphic Dual Tote Preset	2A83981	106	[6/61]
6 Digits Graphic Single Non Tote Preset	2A83994	106	[6/66]
6 Digits Graphic Single Tote Preset	2A83993	106	[6/65]
6 Digits Graphic Ultra Mirrored Non Preset	2A83875	106	[6/70]
6 Digits Graphic Ultra Mirrored Preset	2A83881	106	[6/68]
6 Digits Graphic Ultra Tote Non Preset	2A83872	106	[6/69]
6 Digits Graphic Ultra Tote Preset 6 Digits	2A83877	106	[6/67]
800MG High Volume Filter 10 Microns	4G00359	57	[4/195]
800MG High Volume Filter 30 Microns	4G00534	57	[4/195a]
800MG High Volume Filter Assy 10 Microns	P83879	64	[4/196]
800MG High Volume Filter Assy 30 Microns	P83880	64	[4/196a]
810 1-1/2" NPT Single Filter Al Adp.	4G00360	57	[4/194]
AC Control Earth Lead Assembly	2A87309	73	[4/209]
AC Control PCB Asm	2A83866	117	[6/124]
AC Control PCB Assy MKII 1000	P83866	100	[6/27]
Adjuster	Item No.	43	[4/112]
Adjusting Bolt	4G00223	43	[4/135]
Air Sense Jumper	2A87326	37	[4/71]
Asco Diaphragm Kit (3/4")	4G24325	36	[4/62]



Part Description	Part Number	Page(s)	Item Number(s)
Asco Diaphragm Kit (4 Prod)	4G24335	36	[4/65]
Asco Diaphragm Kit K302 280V TPL22049 (For PAXD210D4V)	4G24327	36	[4/63]
Asco Diaphragm Kit K312 974 (For Asco 1")	4G24326	36	[4/64]
Ball	4G00420	30	[4/45]
Base - CEEPEC	4G83600	14/80	[3/1] [5/10]
Baseplate Grass Snap On -99	4G25400	99	[6/17]
Battery Asm	2A88230	118/98	[6/1] [6/127]
Battery Strap	4G98136	118	[6/140]
Bearing	4G00256	43	[4/109]
Body Assembly	4G00515	30	[4/35]
Body Assembly	4G00099	43	[4/92]
Bolt M6 x 15	5D00317	43	[4/122]
Bolt M8 x 20	5D00312	43	[4/101]
Bolt M8 x 22	5D00028	30	[4/32]
Bolt M8 x 25	5D00313	43	[4/102]
Bolt M8 x 45	5D00310	43	[4/100]
Bonding Cable	4G92679	115	[6/111]
Bush	Item No.	43	[4/124]
Bypass Pipe Assy	P83938	57	[4/188]
By-Pass Valve	4G00206	43	[4/138]
By-Pass Valve Spring	4G00207	43	[4/130]
Cable AC Control CEEPEC	4E83201	111	[6/81]
Cable Assy Reg to Processor	4G00502	111	[6/83]
Cable Connection PCB Assembly1000	P83821	37	[4/69]
Cable CPU Power CEEPEC	4G00503	111	[6/86]
Cable CPU/Display CEEPEC	2A83204	112	[6/89]
Cable Display Long CEEPEC	2A83205	112	[6/87]
Cable Display Short CEEPEC	2A83206	112	[6/88]
Cable Mains Link AC Control CEEPEC	2A83218	111	[6/85]
Cable Manager Switch	2A83211	104	[6/44]
Cable Nozzle Switch (Long)	2A83217	96	[5/90]
Cable Nozzle Switch (Short)	2A89737	96	[5/89]
Cable Pump Comms CEEPEC	2K83202	111	[6/84]
Cable Tie 100mm	4G23640	94/95/98	[5/75] [6/3]
Cable Tie 140mm	4G23620	98	[6/2]
Cable Totes CEEPEC	2K83203	111	[6/82]
Cap	4G00594	43	[4/137]
Capscrew SH ¼ Whitworth x ¾ SS	5D01100	85	[5/46]
Capscrew Socket Head M6 x 20	5D00030	84	[5/41]
Capscrew Socket Head M6 x 25	5D00040	85	[5/47]
Capscrew Socket Head M6 x 30 SS	5D01030	33	[4/53]
Ceepec Ad Panel	4G80230	115	[6/106]
Ceepec Case Window	4G80235	115	[6/107]



Part Description	Part Number	Page(s)	Item Number(s)
CEEPEC Connector ASM	2A83765	76	[4/220]
Ceepec Door Asm.	2A80204	117	[6/120]
Ceepec Door Weld	4G80205	115	[6/105]
CEEPEC Float Switch Kit - Long Retrofit	2A83377	19	[3/7]
CEEPEC Head Door Assy 6 Digit - Spare	P83983	103	[6/36]
Ceepec Head Weld	4G80200	117	[6/132]
CEEPEC Hi Arm Assembly 1" Spare	P83116	83	[5/31]
CEEPEC Hi Arm Assembly 5/8" Spare	P83118	83	[5/32]
CEEPEC Hi Arm Assembly Ultra Spare	P83874	83	[5/33]
CEEPEC Hose Clamp Kit Spare	P83005	85	[5/50]
CEEPEC II Body Frame	4G80224	22	[4/1a]
CEEPEC II Case Window	4G80235	104	[6/38]
CEEPEC II Column Cover Inner	4G80218	22	[4/2a]
CEEPEC II Panel F & R	4G80227	22	[4/3a]
Ceepec Lanyard	2A80231	115	[6/97]
Chassis Dual - CEEPEC	4G83660	22/80	[4/1] [5/7]
Clamp	4G82852	81	[5/27]
Clip Cable PUC8A 8mm	4E65005	37	[4/72]
Column Cover Duo/Quad/MPH	P83622	80	[5/5]
Column Cap 1" Hose	4G83736	88	[5/58]
Column Cap 5/8" Hose	4G83757	88	[5/57]
Column Cap Blank	4G83972	88	[5/60]
Column Cap Duo	4G83715	88	[5/56]
Column Cap Ext Large Hose	4G83824	88	[5/59]
Column Cap Plain	4G83691	88	[5/54]
Column Cap Single	4G83714	88	[5/55]
Column Cap Square	4G83973	88	[5/61]
Column Cover Inner - CEEPEC	P83623	22/80	[4/2] [5/2]
Column Cover Plain	P83693	80	[5/3]
Column Cover Single Ultra	P83958	80	[5/6]
Column Cover Single/Dual	P83621	80	[5/4]
Column Spine	P83640	80	[5/1]
Comms Cable ULTRA	2A83898	72	[4/204]
Connecting Rod	4E00468	30	[4/41]
Connector Assy	8A82778	55	[4/181]
Connector Mounting Bracket	4E83677	94/95	[5/82]
Cover	4G00317	43	[4/118]
Cover	4G00214	43	[4/139]
Cover Mount Bracket	4G83624	80	[5/8]
Cover Mount Nut Plate	4G83727	80	[5/9]
Cover Plate	4G80226	118	[6/137]
Crank Shaft Assembly	4G00419	30	[4/44]
Decal Emergency Nozzle Flap	3E92633	94/95	[5/73]
Decal Lift Flap Yellow	3E83187	95	[5/85]



Part Description	Part Number	Page(s)	Item Number(s)
Decal Protect - CEEPEC	3E88612	24	[4/11]
Decal Ultra Ceepec Speed Switch White	3B83788	91	[5/67]
Decal Warning Diesel Yellow	3E83186	95	[5/87]
Dial Blanking Plate	4G83837	103	[6/37]
Diesel Holster Assembly	2A83076D	93	[5/69]
Diesel Latch Assembly	2A92190P	95	[5/88]
Diesel Warning Catch	4G92692	95	[5/86]
Disc Control Valve Q240A	4G00211	43	[4/90]
Discharge Gasket	4G00293	52	[4/174]
Dispenser Del Pipe Assy	8A82857	56	[4/186]
Display/Preset LH	2A838016	115	[6/98]
Display/Preset PCB Assy 6 Digit LH	P838016	107	[6/74]
Display/Preset PCB Assy 6 Digit RH	P838066	107	[6/75]
Display/Preset PCB Assy LH	P83801	107	[6/72]
Display/Preset PCB Assy RH	P83806	107	[6/73]
Display/Preset RH	2A838066	115	[6/99]
Edge Clip	4E24140	104/115	[6/39] [6/101]
Edge Protector Strips (Grommet KG 012 250mm Lengths)	2M29100	25	[4/22]
Elaflex ZVA ESB Elbow Swivel Safety Break - 5/8"	4G29465	126	[7/28]
Elaflex ZVA SSB Straight Swivel Safety Break - 1"	4G29455	126	[7/26]
Elaflex ZVA SSB Straight Swivel Safety Break - 5/8"	4G29445	126	[7/27]
Elbow Extn M/F 1/4 Inch BSP Adaptor	4G23911	43	[4/125]
Elbow Male 69 x 6 x 4	4G23020	43	[4/150]
Encoder Assembly Series II Spare	P07434	33	[4/52]
Encoder Cap & Cable Assembly	P82783	33	[4/54]
Encoder PCB Assembly Hi-Flow Spare	P33866	33	[4/55]
EPROM vC2.61c*	P92380	100	[6/32e]
EPROM vG2.35c (Main Processor) and vI1.29s (Input Processor) set	P83580HS	100	[6/32b]
EPROM vG2.61c*	P83580X	100	[6/32d]
EPROM vP2.35c (Main Processor) and vI1.29s (Input Processor) set	P87380HSD	100	[6/32a]
EPROM vP2.61c*	P87380	100	[6/32c]
Extension Pipe Assy Long Zinc Plated	8A09011	49	[4/166]
Extension Pipe Assy Short Zinc Plated	8A83689	49	[4/165]
External Hose Assy 5/8" Rayon Braid 3.45m	2A83919AR	120	[7/1]
External Hose Assy 5/8" Wire Braid 3.45m	2A83919AS	120	[7/2]
Face Panel Latch	4G83655	99	[6/18]
Feed Pipe Weld LH	8A83917	55	[4/184]
Feed Pipe Weld RH	8A83924	55	[4/185]



Part Description	Part Number	Page(s)	Item Number(s)
Filter Assembly Cimtek Spare 10 Microns	P88920	54	[4/179]
Filter Assembly Cimtek Spare 30 Microns	P88950	54	[4/179a]
Filter Elbow Weld	8A83882	57	[4/192]
Filter Extension Weld	8A83847	57	[4/193]
Filter Microglass Cimtek 10 Microns	4G22095	54	[4/178]
Filter Microglass Cimtek 30 Microns	4G22097	54	[4/178a]
Fixture Shaft	4G00316	43	[4/116]
Flameproof Gland CMP 20S/16 A2F	4E23455	75	[4/217]
Flameproof Gland UFPN20B	4E23450	75	[4/216]
Flameproof Gland UFPN20C	4E23430	75	[4/215]
Flameproof Plug M20	2A44019	75	[4/218]
Flange	Item No.	43	[4/110]
Flange Bolt M8 x 12	5D00314	43	[4/104]
Flange Gasket (T) Meter 1	4G85424	53	[4/175]
Flap Standoff	2A83903	94/95	[5/72]
Float Cover	4G00197	43	[4/143]
Float Switch Assembly 9000 Mk2	2A92067	20	[3/8]
Float Switch Link Cable Assembly	2A92068	20/72	[3/9] [4/208]
Float Switch Switch Brkt - CEEPEC Long	4G83381	20	[3/10]
Float Valve Assembly	4G00221	43	[4/149]
Flow Meter Tatsuno Lobe & Encoder Spare	P83051	32	[4/51]
Flow Meter Tatsuno Spare	P820030	31	[4/50]
Flow Rate Switch Cable Front	2A83052	72	[4/206]
Flow Rate Switch Cable Rear *	2A87327	72	[4/207]
Fluo Tube Cover	4G83667	98	[6/8]
Fluo Tube Mounting Bracket White	P83666	98	[6/4]
Fluorescent 26 Dia x 600 X 18W	4G65650	98	[6/7]
Fluorescent Starter 4-80W	4G55160	98	[6/14]
Fluro Light 18W	4G59570	117	[6/129]
Frame Cross Member 1000	P83630	27	[4/23]
Fuse 10A Slo-Blo HBC	2M66085	113	[6/91]
Fuse 250mA Ceramic	2M65275	113	[6/92]
Fuse 315mA Fast HBC	2M66095	113	[6/90]
Gasket	4G00129	30	[4/39]
Gasket	4G00100	43	[4/93]
Gasket	4G00307	43	[4/103]
Gasket	4G00104	43	[4/114]
Gasket	4G00101	43	[4/117]
Gasket	4G00328	43	[4/131]
Gasket	4G00110	43	[4/136]
Gasket	4G00107	43	[4/140]
Gasket	4G00102	43	[4/142]
Gasket	4G00106	43	[4/144]
Gasket	4G00103	43	[4/148]



Part Description	Part Number	Page(s)	Item Number(s)
Graphic Spacer Panel	4G80236	115	[6/108]
Graphic Ultra Blank	2A83980	106	[6/71]
Grooved Pin (E Type)	5D00029	30	[4/43]
GRP Panel Latch	4G83653	25	[4/12]
GRP Panel Latch & Lock Tie Dual Spare	P83653	25	[4/19]
GRP Panel Latch & Lock Tie Dual Ultra Spare	P83653U	25	[4/20]
Grubscrew 1/4 UNC x 5/16 SS	5D01691	84	[5/36]
Head Brace	4G80211	117	[6/134]
Hex. Socket Headed Bolt	Item No.	43	[4/111]
Hi-Arm Hose 1" Wire Braid 6.4m	2A83926AS	120	[7/7]
Hi-Arm Hose 5/8" Rayon Braid 6.4m	2A83921AR	120	[7/5]
Hi-Arm Hose 5/8" Wire Braid 6.4m	2A83921AS	120	[7/6]
Hi-Arm Hose Assy 1" Hi-Boom Wire Braid 10m	2A83926AX	120	[7/11]
Hi-Arm Hose Assy 1" Wire Braid 8m	2A83926AC	120	[7/10]
Hinge - SS - 32 x 50 x 0.9	4G88372	115	[6/110]
Hinge Clamping Plate	4G87711	115	[6/109]
Hinge Clamping Plate	4G87711	117	[6/138]
Hinge Grass Snap On -99	4G25410	104	[6/42]
Hinge Spacer (Head)	4G83637	99	[6/15]
Holster Spring	4G83701	94/95	[5/76]
Holster Washer 5/16 x 5/8 SS	4G83712	94/95	[5/78]
Hose Clamp LH Mk2	2A92783	85	[5/43]
Hose Clamp Pads	4G92767	85	[5/49]
Hose Clamp RH Mk2	2A92784	85	[5/42]
Inlet Strainer	P00209	43	[4/120]
Internal Hose Assy 1" Wire Braid 2m	2A83669SH	120	[7/4]
Internal Hose Assy 5/8" Rayon Braid 2m	4G83669	120	[7/3]
Junction Box Lid MPD	2A87801	74	[4/213]
Junction Box Mounting Bracket	4G83625	77	[4/222]
Junction Box Mounting Plate	4G83629	77	[4/223]
Junction Box MPD	2A87800	74	[4/212]
Keypad	2M87195	108	[6/80]
Lamp Guard	4G80225	118	[6/136]
Lampholder BC	4G66109	117	[6/130]
Light Mgt Brkt	4G92754	117	[6/139]
Light Tube Lead Assy Long	2A83782	98	[6/5]
Light Tube Lead Assy Short	2A83783	98	[6/6]
Lighting Box Sub/Assy	2A83781	98	[6/10]
Link Wire Blue	2A83214	73	[4/211]
Link Wire Green	2A83215	73	[4/210]
Lock A/CR19/01/3C/No3	4G25960	115	[6/102]
Lock A/CR19/01/3C/No3 Tab	4G25960-T	115	[6/103]



Part Description	Part Number	Page(s)	Item Number(s)
Lock Catch	4G80217	117	[6/135]
Lock F & R - CEEPEC	4G25960	104	[6/40]
Lock F & R - CEEPEC	4G25960	25	[4/15]
Lock Nut M10	5B00013	30	[4/38]
Lock Tie	P83708	25	[4/13]
Lock Tie - Ultra	P83918	25	[4/14]
Locking Cam Plated	4G83659	104	[6/41]
Logic Board Jumper (Air Sense)	2A87326	114	[6/95]
Logic Control Box	2A83707	37	[4/67]
Logic Control Box Assembly - Spare	P83787	37	[4/66]
Logic Control Cable CEEPEC	2K83200	72	[4/205]
Low Flow Bend Weld	8A82873	57	[4/190]
Lower Cover	4G00308	43	[4/115]
Lower Cover Assembly	4G00421	30	[4/48]
Lower Del Pipe Assy BC Zinc Plated	8A83685	49	[4/168BC]
Lower Del Pipe Assy Rael Zinc Plated	8A83802	49	[4/168]
M4 Internal Lock Washer	5C04500	115	[6/116]
Mains PCB Cover	4G80210	117	[6/133]
Mains/Pump Comms Cable CEEPEC	2A83208	72	[4/200]
Manager Switch Asm	2A80219	118	[6/122]
Manifold	P82750	55	[4/183]
Membrain Keypad	2M87195	115	[6/100]
Meter Del Pipe Assy Long Zinc Plated	8A83672	49	[4/164]
Meter Del Pipe Assy Short Zinc Plated	8A83670	49	[4/163]
Meter Feed Pipe Assy	8A82770	57	[4/191]
Meter Feed Pipe Weld	8A83913	55	[4/180]
Meter Gasket Lobe	4G82768	63	[4/197]
Meter Mounting Plate 1000	4G83631	28	[4/27]
Mixer Pipe Weld	8A83934	57	[4/189]
Module Angle Bracket	4G87543	44	[4/158]
Module Z Bracket	4G87831	44	[4/157]
Motor Bonding Cable	4G87358	40/73	[4/84]
Motor Elnor Standard Spare	P821035	39	[4/77]
Motor Elnor Standard Spare (See table 2)	P8210358B	39	[4/78A]
Motor Elnor Standard Spare (See table 2)	P8210351B	39	[4/78B]
Motor Elnor Standard Spare (See table 2)	P821035HS	39	[4/78C]
Motor Mount Plate	4G94539	40	[4/81]
Motor Mounting Plate Ultra	4G83928	40	[4/82]
Motor Pulley - high speed	2A92641	40	[4/80]
Motor Pulley - standard	2A92640	40	[4/79]
Motor/Valve Control Cable CEEPEC Front	2A83207	72	[4/201]
Motor/Valve Control Cable CEEPEC Rear	2A83195	72	[4/202]
Motor/Valve Control Cable ULTRA	2A83897	72	[4/203]
Mount Anti Vibration R290	4G29920	40	[4/83]



Part Description	Part Number	Page(s)	Item Number(s)
Mounting Angle	4G83975	28/77	[4/29]
Mounting Boss	2A83638	100	[6/29]
Nozzle Anchor Pin 1000	2A83700	94/95	[5/79]
Nozzle Blank	4G82851	81	[5/26]
Nozzle Flap MkII	4G83902	94/95	[5/74]
Nozzle Flap Pin	2A83675	94/95	[5/70]
Nozzle Switch Magnet Assembly V2 Spare	P92752	94/95	[5/84]
Nut Dome Nylon PNN632C-Q	5B03520	33, 104,115, 117	[4/56] [6/52] [6/114] [6/142]
Nut Full Steel M2.5 ZP	5B03130	104	[6/47]
Nut Full Steel M3 ZP	5B03140	37/99/115	[4/74] [6/20] [6/112]
Nut Full Steel M4 ZP	5B03160	25/98/115/117	[4/18] [6/13] [6/113]
Nut Full Steel M6 ZP	5B03230	27/117	[4/26][6/141]
Nut Full Steel M8 ZP	5B03240	15/22/28/40/44/60/ 77/80	[3/4] [4/6] [5/15]
Nut M16	5B03720	43	[4/113]
Nut M8	5B00002	43	[4/134]
Nutsert M4	5B03290	25	[4/21]
Nyloc Nut M4	5B03020	80	[5/13]
NZFP Hose Sealing Washer ¾"	X0105	124	[7/22]
NZFP Hose Sealing Washer 1	X0106	124	[7/23]
Oil Seal	4G00196	43	[4/105]
Oil Seal and Retainer	4G00533	30	[4/31a]
Old Splashguard (black)	4G29590	123	[7/16a]
Old Splashguard (green)	4G29560	123	[7/16c]
Old Splashguard (light blue)	4G29552	123	[7/16f]
Old Splashguard (orange)	4G29553	123	[7/16e]
Old Splashguard (red)	4G29580	123	[7/16b]
Old Splashguard (standard blue)	4G29550	123	[7/16g]
Old Splashguard (yellow)	4G29570	123	[7/16d]
Old ZVA Cover (black)	4G00063	123	[7/17a]
Old ZVA Cover (green)	4G00066	123	[7/17c]
Old ZVA Cover (light blue)	4G00323	123	[7/17f]
Old ZVA Cover (orange)	4G00324	123	[7/17e]
Old ZVA Cover (red)	4G00068	123	[7/17b]
Old ZVA Cover (standard blue)	4G00064	123	[7/17g]
Old ZVA Cover (yellow)	4G00070	123	[7/17d]
O-Ring 32 x 3N70	4G29635	84	[5/39]
O-Ring 4 Product	4G29634	63	[4/198]
O-Ring G100	4G00273	30	[4/33]
O-Ring G110	4G00427	30	[4/47]
O-Ring Nitrile	4G29665	84	[5/38]
O-Ring Tatsuno G65	4G00257	43	[4/97]
O-Ring Tatsuno G95	4G00247	43	[4/128]



Part Description	Part Number	Page(s)	Item Number(s)
Outlet Mask	4G83968	81	[5/30]
Outlet Mask Blank	4G83969	81	[5/28]
Outlet Mask Gasket	4G83971	81	[5/29]
Outlet Pipe Ultra	8A83929	55	[4/182]
Outlet Strainer	4G00192	43	[4/95]
Overflow Prevention Valve Assembly	4G00482	43	[4/147]
Panel Assembly F & R - CEEPEC	P83771	22	[4/3]
Panel Locating Pin	2A83745	22	[4/10]
PCB Cover (Front)	P83664	99	[6/25]
PCB Cover (Rear)	P83674	99	[6/26]
PCB Cover Mount	2M83665	99	[6/19]
Petrol Holster Assembly	2A83076	93	[5/68]
Pin Cotter 2.5 x 40mm	4E06115	85	[5/48]
Pinion	4G00203	43	[4/127]
Pipe Spring	4G87929	84	[5/40]
Pipe Spring Assembly 1"	P83735	86	[5/51]
Pipe Spring Assembly UHF	2A92545	87	[5/52]
Piston	4G00422	30	[4/36]
Piston Cover	4G00426	30	[4/40]
Piston Cover Assembly & Adjstmnt Handle	4G94900	30	[4/49]
Plug	4G00194	43	[4/108]
Plug	4E00700	43	[4/133]
Positrip Replacement Kit	P88057	124	[7/24]
Power Regulator PCB Asm	2A87216	117	[6/125]
Power Regulator PCB Assy Type1	P87216	100	[6/33]
Power Supply Box Mounting Bracket	4G87807	77	[4/221]
Power Supply PCB Asm	2A83851	117	[6/123]
Power Supply PCB Assy MK2	P83851	100	[6/34]
Processor Jumper	4E63290	114	[6/94]
Processor PCB Asm	2A87226	118	[6/126]
Processor PCB Assy Type 1	P87226	100	[6/30]
Pump Belt A30	4G23850	39/43	[4/155]
Pump Cover Assembly	4G00205	43	[4/129]
Pump Pulley	4G20220	43	[4/154]
Pump Unit Gasket	4G87912	53	[4/176]
Pump Unit Mounting Bracket	4G83627	45	[4/162]
Pump Unit Support Bracket	4G83628	45	[4/162a]
Pump Unit Tatsuno Spare	P820075	44	[4/156]
Retainer	4G00423	30	[4/37]
Retaining Ring (E Type)	4G00270	43	[4/88]
Riser Pipe Assy Disp Duo	8A83696	53	[4/172]
Riser Pipe Assy Disp Single	8A83695	53	[4/171]
Riser Pipe Assy Pump Duo	8A83680	49	[4/170]
Riser Pipe Assy Pump Single	8A83683	49	[4/169]



Part Description	Part Number	Page(s)	Item Number(s)
Screw Brass M4x8 Pan HD	5D00380	104	[6/48]
Screw Button Socket Head M4 x 12 SS	5D01670	25/80	[4/16] [5/12]
Screw Button Socket Head M6 x 16 SS	5D01650	27/80	[4/24] [5/19]
Screw C/W Lock Washer	5D00318	43	[4/146]
Screw M2 5x16 Pan HD	5D00115	104	[6/45]
Screw Posi Pan HD M4x8 SS	5D01950	115	[6/119]
Screw Posi Pan Head M4 x 12 Phil HD S/S	5D01660	98	[6/9]
Screw Posi Pan Head M4 x 8	5D00610	94/95	[5/83]
Screw Posi Pan Head M4x10	5D01710	117	[6/147]
Screw Posi Pan Head M4x16	5D00660	99/117	[6/24] [6/146]
Screw Posidrive M3 x 6 Pan HD	5D00530	115	[6/117]
Screw Posidrive Pan Head M4 x 10	5D01710	76/100	[4/219] [6/28]
Screw Posidrive Pan Head M4 x 12	5D00650	80/98	[5/11] [6/12]
Screw Posidrive Pan Head M4 x 20 SS	5D01665	88	[5/62]
Screw Slot Pan Head M3x8	5D00540	117	[6/145]
Screw SS M4 x 10 CSK HD	5D01840	115	[6/118]
Screw Steel M3 x 10 Pan Head	5D00550	37	[4/76]
Screw Steel M3 x 8 Pan HD	5D00540	99	[6/22]
Self Tapper AB Pan Head 4 x ¼	5D02120	37	[4/68]
Self Tapper AB Pan Head 4 x ⅝	5D02380	37	[4/70]
Separator Cover	4G00001	43	[4/94]
Setscrew ¼UNC x ¾ ZP	5D01200	77	[4/225]
Setscrew Engineers ¼ UNC x 1.25 ZP	5D01210	74	[4/214]
Setscrew M6 x 12 ZP	5D00060	94/95/28	[4/28][5/80]
Setscrew M6 x 16 ZP	5D00960	22/77	[4/8]
Setscrew M8 x 16 ZP	5D00090	15/22/31/44/77/80	[3/2] [4/4] [4/159] [5/16]
Setscrew M8 x 20 ZP	5D00100	53/28/77	[4/30]
Setscrew M8 x 25mm	5D00110	53	[4/177]
Setscrew M8 x 30 ZP	5D00120	44	[4/161]
Setscrew M8 x 35mm ZP	5D00130	44	[4/160]
Setscrew M8 x 45mm ZP	5D00930	40/77	[4/85]
Sil Pad 400(TO220)3223 07AC 54	2M65790	33	[4/57]
Solenoid Valve Asco ¾" Spare (Deleted)	P852530	36	[4/58]
Solenoid Valve Asco 1" Spare	P852535	36	[4/60]
Solenoid Valve Asco 4 Product Spare	P852536	36	[4/61]
Solenoid Valve Asco PAXD210D4V Spare	P852537	36	[4/59]
Space Nylon M+F SMF6 13	4G66570	104	[6/51]
Spacer	Item No.	43	[4/107]
Spacer Hi Arm	2A02955	85	[5/39a]
Spacer 3BV05 Hi Q Nylon	4G65850	104	[6/46]
Spacer Nylon M & F 6-13	4G66570	115/118	[6/104] [6/131]
Splashguard (black)	4G30200	123	[7/18a]
Splashguard (green)	4G30202	123	[7/18c]
Splashguard (light blue)	4G30206	123	[7/18f]



Part Description	Part Number	Page(s)	Item Number(s)
Splashguard (orange)	4G30207	123	[7/18e]
Splashguard (red)	4G30201	123	[7/18b]
Splashguard (standard blue)	4G30204	123	[7/18g]
Splashguard (yellow)	4G30203	123	[7/18d]
Spring	4G00416	30	[4/34]
Spring	4G00198	43	[4/87]
Spring	4G00208	43	[4/89]
Spring Anchor Cap	4G87923	84	[5/37]
Spring Arm Weld UHF	4G92546	87	[5/53]
Spring Cap	4G87924	84	[5/35]
Spring Cover Plate	4G83738	88	[5/63]
Spring Extension	4G89871	85	[5/45]
Spring Pipe	4G87930	84	[5/34]
Spring Seat	4G00222	43	[4/132]
Spring Washer M6	5C00018	43	[4/123]
Spring Washer M8 Tatsuno	5C00017	43	[4/99]
Stand Off	2A80213	117	[6/121]
Standoff Locking 12.7mm	4G60595	100	[6/31]
Stopper	4G00318	43	[4/119]
Strainer Cover	4G00217	43	[4/98]
Strainer Cover	4G00319	43	[4/121]
Sump - CEEPEC Dispenser - for use with pressure systems	4G22465	16	[3/5]
Sump - CEEPEC Pump - for use with suction systems	4G22460	17	[3/6]
Switch Blank	4G83967	81	[5/23]
Switch Body ZB4 BZ009	2M00101	91	[5/65]
Switch Contact Block ZBE 1026	2M00102	91	[5/66]
Switch Handle ZB4 BJ2	2M00103	91	[5/64]
Switch Mask	4G83901	94/95	[5/71]
Switch Spacer	4G83963	81	[5/24]
Switch Washer	4G83959	81	[5/25]
Swivel - 1"	4G22410	126	[7/30]
Swivel - 5/8"	4G29675	126	[7/29]
Swivel Body Mk2 Machined	2A92782M	85	[5/44]
Terminal Strip 5W x 1	4E62820	99/117	[6/23] [6/128]
Test Valve Assembly ZP	8A87936	43	[4/151]
Test Valve Spring	4G83717	43	[4/152]
Tote Asm	2A80208	115	[6/96]
Tote Assembly Dual	P839562	108	[6/77]
Tote Assembly Single	P839561	108	[6/76]
Tote Counter Assy	2A92200	108	[6/79]
Tote Mounting Bracket Mk II	4G83598	104	[6/49]
Tote Mounting Bracket Mk III	4G83584	104	[6/50]



Part Description	Part Number	Page(s)	Item Number(s)
Tote PCB Assy MkIII	P83956	108	[6/78]
Triangle Ring	4G00193	43	[4/86]
U-Bolt 1¼ Pipe 304SS & Nuts 5/16	5D19910	65	[4/199]
Ultra High Hose Assy 1" Wire Braid 5.62m	2A83900	120	[7/8]
Ultra High Hose Assy 1" Wire Braid 8m	2A8390008	120	[7/9]
Upper Cover Assembly	4G00514	30	[4/31]
Upper Del Pipe Assy Zinc Plated	8A83687	49	[4/167]
Upper Float Assembly	4G00189	43	[4/141]
Upper Mount Bracket	4G83939	77	[4/224]
Valve	2A87938	43	[4/153]
Valve Seat	4G00210	43	[4/145]
Valve Stem	4G00215	43	[4/91]
Varistor Mov V275LA 40A	2B40885	113	[6/93]
Vent Pipe Assy Spare	P83838	54	[4/173]
Washer (B)	5C00005	30	[4/46]
Washer (C)	5C00019	30	[4/42]
Washer Fender ¼ ID x 1.25 OD	5C04470	22	[4/9]
Washer Flat M4 x 12mm OD SS	5C83724	80/94/95	[5/21]
Washer Flat M6	5C04460	77/80	[4/226] [5/22]
Washer Flat M8	5C04440	15	[3/3]
Washer Flat M8	5C04440	22/28/40/44/77/80	[4/5] [5/17]
Washer Flat Steel M3 x 9mm OD	5C04400	37/100	[4/75] [6/35]
Washer Flat Steel M4 x 11m OD	5C04410	99	[6/16]
Washer Flat Steel M4 x 9mm OD	5C04570	80/104	[5/14] [6/43]
Washer Flat Steel M4 x11OD	5C04410	115/117	[6/115]
Washer Flat Steel M6 x16OD	5C04460	117	[6/144]
Washer Internal Lock M3	5C00013	37/99	[4/73] [6/21]
Washer Internal Lock M4	5C04500	25/76/98	[4/17] [6/11]
Washer Internal Lock M6	5C04020	94/95	[5/81]
Washer PGS 0255 27	5C00001	43	[4/106]
Washer Spring M6	5C04200	27/77/80/118	[4/25] [5/20] [6/143]
Washer Spring M8	5C04210	22/28/31/40 44/60/77/80	[4/7] [5/18]
Washer Starlock 5.16 ID	5C06060	94/95	[5/77]
Wheel Assembly	4G00201	43	[4/126]
Wing Nut M5	5B00012	43	[4/96]
ZVA Cover (black)	4G30300	123	[7/19a]
ZVA Cover (green)	4G30302	123	[7/19c]
ZVA Cover (light blue)	4G30306	123	[7/19f]
ZVA Cover (orange)	4G30307	123	[7/19e]
ZVA Cover (red)	4G30301	123	[7/19b]
ZVA Cover (standard blue)	4G30304	123	[7/19g]
ZVA Cover (yellow)	4G30303	123	[7/19d]



Part Description	Part Number	Page(s)	Item Number(s)
ZVA Nozzle (Drip Stop)	4G00560	122	[7/12]
ZVA Nozzle ¾" Reduced	4G00550	122	[7/14]
ZVA Nozzle ¾" Standard	4G00555	122	[7/13]
ZVA Nozzle 1"	4G00052	122	[7/15]
ZVA Product Badge	4G00074	123	[7/20]
ZVA Product Sleeve (black)	4G30400	123	[7/21]
ZVA Reducing Bush M42 x M34	4G00076	126	[7/25]



APPENDIX B - PARTS LIST BY PART NUMBER

Part Number	Part Description	Page(s)	Item Number(s)
2A02955	Spacer Hi Arm	85	[5/39a]
2A44019	Flameproof Plug M20	75	[4/218]
2A80204	Ceepec Door Asm.	117	[6/120]
2A80208	Tote Asm	115	[6/96]
2A80213	Stand Off	117	[6/121]
2A80219	Manager Switch Asm	118	[6/122]
2A80231	Ceepec Lanyard	115	[6/97]
2A83052	Flow Rate Switch Cable Front	72	[4/206]
2A83076	Petrol Holster Assembly	93	[5/68]
2A83076D	Diesel Holster Assembly	93	[5/69]
2A83195	Motor/Valve Control Cable CEEPEC Rear	72	[4/202]
2A83204	Cable CPU/Display CEEPEC	112	[6/89]
2A83205	Cable Display Long CEEPEC	112	[6/87]
2A83206	Cable Display Short CEEPEC	112	[6/88]
2A83207	Motor/Valve Control Cable CEEPEC Front	72	[4/201]
2A83208	Mains/Pump Comms Cable CEEPEC	72	[4/200]
2A83211	Cable Manager Switch	104	[6/44]
2A83214	Link Wire Blue	73	[4/211]
2A83215	Link Wire Green	73	[4/210]
2A83217	Cable Nozzle Switch (Long)	96	[5/90]
2A83218	Cable Mains Link AC Control CEEPEC	111	[6/85]
2A83377	CEEPEC Float Switch Kit - Long Retrofit	19	[3/7]
2A83402	6 Digits Graphic Dual Tote Non Preset	106	[6/63]
2A83403	6 Digits Graphic Dual No Tote Non Preset	106	[6/64]
2A83638	Mounting Boss	100	[6/29]
2A83669SH	Internal Hose Assy 1" Wire Braid 2m	120	[7/4]
2A83675	Nozzle Flap Pin	94/95	[5/70]
2A83700	Nozzle Anchor Pin 1000	94/95	[5/79]
2A83707	Logic Control Box	37	[4/67]
2A83745	Panel Locating Pin	22	[4/10]
2A83765	CEEPEC Connector ASM	76	[4/220]
2A83781	Lighting Box Sub/Assy	98	[6/10]
2A83782	Light Tube Lead Assy Long	98	[6/5]
2A83783	Light Tube Lead Assy Short	98	[6/6]
2A838016	Display/Preset LH	115	[6/98]
2A838066	Display/Preset RH	115	[6/99]
2A83851	Power Supply PCB Asm	117	[6/123]
2A83866	AC Control PCB Asm	117	[6/124]
2A83872	6 Digits Graphic Ultra Tote Non Preset	106	[6/69]
2A83875	6 Digits Graphic Ultra Mirrored Non Preset	106	[6/70]
2A83877	6 Digits Graphic Ultra Tote Preset 6 Digits	106	[6/67]
2A83881	6 Digits Graphic Ultra Mirrored Preset	106	[6/68]



Part Number	Part Description	Page(s)	Item Number(s)
2A83897	Motor/Valve Control Cable ULTRA	72	[4/203]
2A83898	Comms Cable ULTRA	72	[4/204]
2A83900	Ultra High Hose Assy 1" Wire Braid 5.62m	120	[7/8]
2A8390008	Ultra High Hose Assy 1" Wire Braid 8m	120	[7/9]
2A83903	Flap Standoff	94/95	[5/72]
2A83919AR	External Hose Assy 5/8" Rayon Braid 3.45m	120	[7/1]
2A83919AS	External Hose Assy 5/8" Wire Braid 3.45m	120	[7/2]
2A83921AR	Hi-Arm Hose 5/8" Rayon Braid 6.4m	120	[7/5]
2A83921AS	Hi-Arm Hose 5/8" Wire Braid 6.4m	120	[7/6]
2A83926AC	Hi-Arm Hose Assy 1" Wire Braid 8m	120	[7/10]
2A83926AS	Hi-Arm Hose 1" Wire Braid 6.4m	120	[7/7]
2A83926AX	Hi-Arm Hose Assy 1" Hi-Boom Wire Braid 10m	120	[7/11]
2A83980	Graphic Ultra Blank	106	[6/71]
2A83981	6 Digits Graphic Dual Tote Preset	106	[6/61]
2A83984	6 Digits Graphic Dual Non Tote Preset	106	[6/62]
2A83993	6 Digits Graphic Single Tote Preset	106	[6/65]
2A83994	6 Digits Graphic Single Non Tote Preset	106	[6/66]
2A87216	Power Regulator PCB Asm	117	[6/125]
2A87226	Processor PCB Asm	118	[6/126]
2A87309	AC Control Earth Lead Assembly	73	[4/209]
2A87326	Air Sense Jumper	37/114	[4/71] [6/95]
2A87327	Flow Rate Switch Cable Rear *	72	[4/207]
2A87800	Junction Box MPD	74	[4/212]
2A87801	Junction Box Lid MPD	74	[4/213]
2A87938	Valve	43	[4/153]
2A88230	Battery Assy 1000/8000/9000	98	[6/1]
2A88230	Battery Asm	118	[6/127]
2A89737	Cable Nozzle Switch (Short)	96	[5/89]
2A92067	Float Switch Assembly 9000 Mk2	20	[3/8]
2A92068	Float Switch Link Cable Assembly	20/72	[3/9] [4/208]
2A92190P	Diesel Latch Assembly	95	[5/88]
2A92200	Tote Counter Assy	108	[6/79]
2A92545	Pipe Spring Assembly UHF	87	[5/52]
2A92640	Motor Pulley - standard	40	[4/79]
2A92641	Motor Pulley - high speed	40	[4/80]
2A92782M	Swivel Body Mk2 Machined	85	[5/44]
2A92783	Hose Clamp LH Mk2	85	[5/43]
2A92784	Hose Clamp RH Mk2	85	[5/42]
2B40885	Varistor Mov V275LA 40A	113	[6/93]
2K83200	Logic Control Cable CEEPEC	72	[4/205]
2K83202	Cable Pump Comms CEEPEC	111	[6/84]

Part Number	Part Description	Page(s)	Item Number(s)
2K83203	Cable Totes CEEPEC	111	[6/82]
2M00101	Switch Body ZB4 BZ009	91	[5/65]
2M00102	Switch Contact Block ZBE 1026	91	[5/66]
2M00103	Switch Handle ZB4 BJ2	91	[5/64]
2M29100	Edge Protector Strips (Grommet KG 012 250mm Lengths)	25	[4/22]
2M65275	Fuse 250mA Ceramic	113	[6/92]
2M65790	Sil Pad 400(TO220)3223 07AC 54	33	[4/57]
2M66085	Fuse 10A Slo-Blo HBC	113	[6/91]
2M66095	Fuse 315mA Fast HBC	113	[6/90]
2M83665	PCB Cover Mount	99	[6/19]
2M87195	Membrain Keypad	108/115	[6/80][6/100]
3B83402	5 Digits Graphic Panel Dual Front Non Preset	106	[6/55]
3B83403	5 Digits Graphic Panel Dual Rear Non Preset	106	[6/56]
3B83404	5 Digits Graphic Panel Dual Front Preset	106	[6/53]
3B83405	5 Digits Graphic Panel Dual Rear Preset	106	[6/54]
3B83406	5 Digits Graphic Panel Single Front Preset	106	[6/57]
3B83407	5 Digits Graphic Panel Single Rear Preset	106	[6/58]
3B83425	5 Digits Graphic Panel Single Front Non Preset	106	[6/59]
3B83426	5 Digits Graphic Panel Single Rear Non Preset	106	[6/60]
3B83788	Decal Ultra Ceepec Speed Switch White	91	[5/67]
3E83186	Decal Warning Diesel Yellow	95	[5/87]
3E83187	Decal Lift Flap Yellow	95	[5/85]
3E88612	Decal Protect - CEEPEC	24	[4/11]
3E92633	Decal Emergency Nozzle Flap	94/95	[5/73]
4E00468	Connecting Rod	30	[4/41]
4E00700	Plug	43	[4/133]
4E06115	Pin Cotter 2.5 x 40mm	85	[5/48]
4E23430	Flameproof Gland UFPN20C	75	[4/215]
4E23450	Flameproof Gland UFPN20B	75	[4/216]
4E23455	Flameproof Gland CMP 20S/16 A2F	75	[4/217]
4E24140	Edge Clip	104/115	[6/39] [6/101]
4E62820	Terminal Strip 5W X 1	99/117	[6/23] [6/128]
4E63290	Processor Jumper	114	[6/94]
4E65005	Clip Cable PUC8A 8mm	37	[4/72]
4E83201	Cable AC Control CEEPEC	111	[6/81]
4E83677	Connector Mounting Bracket	94/95	[5/82]
4G00001	Separator Cover	43	[4/94]
4G00052	ZVA Nozzle 1"	122	[7/15]
4G00063	Old ZVA Cover (black)	123	[7/17a]
4G00064	Old ZVA Cover (standard blue)	123	[7/17g]



Part Number	Part Description	Page(s)	Item Number(s)
4G00066	Old ZVA Cover (green)	123	[7/17c]
4G00068	Old ZVA Cover (red)	123	[7/17b]
4G00070	Old ZVA Cover (yellow)	123	[7/17d]
4G00074	ZVA Product Badge	123	[7/20]
4G00076	ZVA Reducing Bush M42 x M34	126	[7/25]
4G00099	Body Assembly	43	[4/92]
4G00100	Gasket	43	[4/93]
4G00101	Gasket	43	[4/117]
4G00102	Gasket	43	[4/142]
4G00103	Gasket	43	[4/148]
4G00104	Gasket	43	[4/114]
4G00106	Gasket	43	[4/144]
4G00107	Gasket	43	[4/140]
4G00110	Gasket	43	[4/136]
4G00129	Gasket	30	[4/39]
4G00189	Upper Float Assembly	43	[4/141]
4G00192	Outlet Strainer	43	[4/95]
4G00193	Triangle Ring	43	[4/86]
4G00194	Plug	43	[4/108]
4G00196	Oil Seal	43	[4/105]
4G00197	Float Cover	43	[4/143]
4G00198	Spring	43	[4/87]
4G00201	Wheel Assembly	43	[4/126]
4G00203	Pinion	43	[4/127]
4G00205	Pump Cover Assembly	43	[4/129]
4G00206	By-Pass Valve	43	[4/138]
4G00207	By-Pass Valve Spring	43	[4/130]
4G00208	Spring	43	[4/89]
4G00210	Valve Seat	43	[4/145]
4G00211	Disc Control Valve Q240A	43	[4/90]
4G00214	Cover	43	[4/139]
4G00215	Valve Stem	43	[4/91]
4G00217	Strainer Cover	43	[4/98]
4G00221	Float Valve Assembly	43	[4/149]
4G00222	Spring Seat	43	[4/132]
4G00223	Adjusting Bolt	43	[4/135]
4G00247	O-Ring Tatsuno G95	43	[4/128]
4G00256	Bearing	43	[4/109]
4G00257	O-Ring Tatsuno G65	43	[4/97]
4G00270	Retaining Ring (E Type)	43	[4/88]
4G00273	O-Ring G100	30	[4/33]
4G00293	Discharge Gasket	52	[4/174]
4G00307	Gasket	43	[4/103]
4G00308	Lower Cover	43	[4/115]

Part Number	Part Description	Page(s)	Item Number(s)
4G00316	Fixture Shaft	43	[4/116]
4G00317	Cover	43	[4/118]
4G00318	Stopper	43	[4/119]
4G00319	Strainer Cover	43	[4/121]
4G00323	Old ZVA Cover (light blue)	123	[7/17f]
4G00324	Old ZVA Cover (orange)	123	[7/17e]
4G00328	Gasket	43	[4/131]
4G00359	800MG High Volume Filter 10 Microns	57	[4/195]
4G00360	810 1-1/2" NPT Single Filter Al Adp.	57	[4/194]
4G00416	Spring	30	[4/34]
4G00419	Crank Shaft Assembly	30	[4/44]
4G00420	Ball	30	[4/45]
4G00421	Lower Cover Assembly	30	[4/48]
4G00422	Piston	30	[4/36]
4G00423	Retainer	30	[4/37]
4G00426	Piston Cover	30	[4/40]
4G00427	O-Ring G110	30	[4/47]
4G00482	Overflow Prevention Valve Assembly	43	[4/147]
4G00502	Cable Assy Reg to Processor	111	[6/83]
4G00503	Cable CPU Power CEEPEC	111	[6/86]
4G00514	Upper Cover Assembly	30	[4/31]
4G00515	Body Assembly	30	[4/35]
4G00533	Oil Seal and Retainer	30	[4/31a]
4G00534	800MG High Volume Filter 30 Microns	57	[4/195a]
4G00550	ZVA Nozzle 3/4" Reduced	122	[7/14]
4G00555	ZVA Nozzle 3/4" Standard	122	[7/13]
4G00560	ZVA Nozzle (Drip Stop)	122	[7/12]
4G00594	Cap	43	[4/137]
4G00667	1/4 BSP Plug Plug for Flow Meter Tatsuno MP 02515 G	56	[4/187]
4G20220	Pump Pulley	43	[4/154]
4G22095	Filter Microglass Cimtek 10 Microns	54	[4/178]
4G22097	Filter Microglass Cimtek 30 Microns	54	[4/178a]
4G22410	Swivel - 1"	126	[7/30]
4G22460	Sump - CEEPEC Pump - for use with suction systems	17	[3/6]
4G22465	Sump - CEEPEC Dispenser - for use with pressure systems	16	[3/5]
4G23020	Elbow Male 69 x 6 x 4	43	[4/150]
4G23620	Cable Tie 140mm	98	[6/2]
4G23640	Cable Tie 100mm	94/95	[5/75] [6/3]
4G23850	Pump Belt A30	39/43	[4/155]
4G23911	Elbow Extn M/F 1/4 Inch BSP Adaptor	43	[4/125]
4G24325	Asco Diaphragm Kit (3/4")	36	[4/62]



Part Number	Part Description	Page(s)	Item Number(s)
4G24326	Asco Diaphragm Kit K312 974 (For Asco 1")	36	[4/64]
4G24327	Asco Diaphragm Kit K302 280V TPL22049 (For PAXD210D4V)	36	[4/63]
4G24335	Asco Diaphragm Kit (4 Prod)	36	[4/65]
4G25400	Baseplate Grass Snap On -99	99	[6/17]
4G25410	Hinge Grass Snap On -99	104	[6/42]
4G25960	Lock F & R - CEEPEC	25/104	[4/15] [6/40]
4G25960	Lock A/CR19/01/3C/No3	115	[6/102]
4G25960-T	Lock A/CR19/01/3C/No3 Tab	115	[6/103]
4G29445	Elaflex ZVA SSB Straight Swivel Safety Break - 5/8"	126	[7/27]
4G29455	Elaflex ZVA SSB Straight Swivel Safety Break - 1"	126	[7/26]
4G29465	Elaflex ZVA ESB Elbow Swivel Safety Break - 5/8"	126	[7/28]
4G29550	Old Splashguard (standard blue)	123	[7/16g]
4G29552	Old Splashguard (light blue)	123	[7/16f]
4G29553	Old Splashguard (orange)	123	[7/16e]
4G29560	Old Splashguard (green)	123	[7/16c]
4G29570	Old Splashguard (yellow)	123	[7/16d]
4G29580	Old Splashguard (red)	123	[7/16b]
4G29590	Old Splashguard (black)	123	[7/16a]
4G29634	O-Ring 4 Product	63	[4/198]
4G29635	O-Ring 32 x 3N70	84	[5/39]
4G29665	O-Ring Nitrile	84	[5/38]
4G29675	Swivel - 5/8"	126	[7/29]
4G29920	Mount Anti Vibration R290	40	[4/83]
4G30200	Splashguard (black)	123	[7/18a]
4G30201	Splashguard (red)	123	[7/18b]
4G30202	Splashguard (green)	123	[7/18c]
4G30203	Splashguard (yellow)	123	[7/18d]
4G30204	Splashguard (standard blue)	123	[7/18g]
4G30206	Splashguard (light blue)	123	[7/18f]
4G30207	Splashguard (orange)	123	[7/18e]
4G30300	ZVA Cover (black)	123	[7/19a]
4G30301	ZVA Cover (red)	123	[7/19b]
4G30302	ZVA Cover (green)	123	[7/19c]
4G30303	ZVA Cover (yellow)	123	[7/19d]
4G30304	ZVA Cover (standard blue)	123	[7/19g]
4G30306	ZVA Cover (light blue)	123	[7/19f]
4G30307	ZVA Cover (orange)	123	[7/19e]
4G30400	ZVA Product Sleeve (black)	123	[7/21]
4G55160	Fluorescent Starter 4-80W	98	[6/14]
4G59570	Fluro Light 18W	117	[6/129]

Part Number	Part Description	Page(s)	Item Number(s)
4G60595	Standoff Locking 12.7mm	100	[6/31]
4G65650	Fluorescent 26 Dia x 600 X 18W	98	[6/7]
4G65850	Spacer 3BV05 Hi Q Nylon	104	[6/46]
4G66109	Lampholder BC	117	[6/130]
4G66570	Space Nylon M+F SMF6 13	104/115/118	[6/51] [6/104] [6/131]
4G80200	Ceepec Head Weld	117	[6/132]
4G80205	Ceepec Door Weld	115	[6/105]
4G80210	Mains PCB Cover	117	[6/133]
4G80211	Head Brace	117	[6/134]
4G80217	Lock Catch	117	[6/135]
4G80218	CEEPEC II Column Cover Inner	22	[4/2a]
4G80224	CEEPEC II Body Frame	22	[4/1a]
4G80225	Lamp Guard	118	[6/136]
4G80226	Cover Plate	118	[6/137]
4G80227	CEEPEC II Panel F & R	22	[4/3a]
4G80230	Ceepec Ad Panel	115	[6/106]
4G80235	CEEPEC II Case Window	104/115	[6/38] [6/107]
4G80236	Graphic Spacer Panel	115	[6/108]
4G82768	Meter Gasket Lobe	63	[4/197]
4G82851	Nozzle Blank	81	[5/26]
4G82852	Clamp	81	[5/27]
4G83381	Float Switch Bracket - CEEPEC Long	20	[3/10]
4G83584	Tote Mounting Bracket Mk III	104	[6/50]
4G83598	Tote Mounting Bracket Mk II	104	[6/49]
4G83600	Base - CEEPEC	14	[3/1]
4G83600	Base - CEEPEC	80	[5/10]
4G83624	Cover Mount Bracket	80	[5/8]
4G83625	Junction Box Mounting Bracket	77	[4/222]
4G83627	Pump Unit Mounting Bracket	45	[4/162]
4G83628	Pump Unit Support Bracket	45	[4/162a]
4G83629	Junction Box Mounting Plate	77	[4/223]
4G83631	Meter Mounting Plate 1000	28	[4/27]
4G83637	Hinge Spacer (Head)	99	[6/15]
4G83653	GRP Panel Latch	25	[4/12]
4G83655	Face Panel Latch	99	[6/18]
4G83659	Locking Cam Plated	104	[6/41]
4G83660	Chassis Dual - CEEPEC	22/80	[4/1] [5/7]
4G83667	Fluo Tube Cover	98	[6/8]
4G83669	Internal Hose Assy 5/8" Rayon Braid 2m	120	[7/3]
4G83691	Column Cap Plain	88	[5/54]
4G83701	Holster Spring	94/95	[5/76]
4G83712	Holster Washer 5/16 x 5/8 SS	94/95	[5/78]
4G83714	Column Cap Single	88	[5/55]
4G83715	Column Cap Duo	88	[5/56]



Part Number	Part Description	Page(s)	Item Number(s)
4G83717	Test Valve Spring	43	[4/152]
4G83727	Cover Mount Nut Plate	80	[5/9]
4G83736	Column Cap 1" Hose	88	[5/58]
4G83738	Spring Cover Plate	88	[5/63]
4G83757	Column Cap 5/8" Hose	88	[5/57]
4G83824	Column Cap Ext Large Hose	88	[5/59]
4G83837	Dial Blanking Plate	103	[6/37]
4G83901	Switch Mask	94/95	[5/71]
4G83902	Nozzle Flap MkII	94/95	[5/74]
4G83928	Motor Mounting Plate Ultra	40	[4/82]
4G83939	Upper Mount Bracket	77	[4/224]
4G83959	Switch Washer	81	[5/25]
4G83963	Switch Spacer	81	[5/24]
4G83967	Switch Blank	81	[5/23]
4G83968	Outlet Mask	81	[5/30]
4G83969	Outlet Mask Blank	81	[5/28]
4G83971	Outlet Mask Gasket	81	[5/29]
4G83972	Column Cap Blank	88	[5/60]
4G83973	Column Cap Square	88	[5/61]
4G83975	Mounting Angle	28/77	[4/29]
4G85424	Flange Gasket (T) Meter 1	53	[4/175]
4G87358	Motor Bonding Cable	40	[4/84]
4G87358	Motor Bonding Cable	73	[4/84]
4G87543	Module Angle Bracket	44	[4/158]
4G87711	Hinge Clamping Plate	115/117	[6/109] [6/138]
4G87807	Power Supply Box Mounting Bracket	77	[4/221]
4G87831	Module Z Bracket	44	[4/157]
4G87912	Pump Unit Gasket	53	[4/176]
4G87923	Spring Anchor Cap	84	[5/37]
4G87924	Spring Cap	84	[5/35]
4G87929	Pipe Spring	84	[5/40]
4G87930	Spring Pipe	84	[5/34]
4G88372	Hinge - SS - 32 x 50 x 0.9	115	[6/110]
4G89871	Spring Extension	85	[5/45]
4G92546	Spring Arm Weld UHF	87	[5/53]
4G92679	Bonding Cable	115	[6/111]
4G92692	Diesel Warning Catch	95	[5/86]
4G92754	Light Mgt Brkt	117	[6/139]
4G92767	Hose Clamp Pads	85	[5/49]
4G94539	Motor Mount Plate	40	[4/81]
4G94900	Piston Cover Assy & Adjustment Handle	30	[4/49]
4G98136	Battery Strap	118	[6/140]
5B00002	Nut M8	43	[4/134]
5B00012	Wing Nut M5	43	[4/96]

Part Number	Part Description	Page(s)	Item Number(s)
5B00013	Lock Nut M10	30	[4/38]
5B03020	Nyloc Nut M4	80	[5/13]
5B03130	Nut Full Steel M2.5 ZP	104	[6/47]
5B03140	Nut Full Steel M3 ZP	37/99/115	[4/74] [6/20] [6/112]
5B03160	Nut Full Steel M4 ZP	25/98/115/117	[4/18] [6/13] [6/113]
5B03230	Nut Full Steel M6 ZP	27	[4/26]
5B03230	Nut M6	117	[6/141]
5B03240	Nut Full Steel M8 ZP	15/22/28/40/44 60/77/80	[3/4] [4/6]
5B03290	Nutsert M4	25	[4/21]
5B03520	Nut Dome Nylon PNN632C-Q	33/104/115/117	[4/56] [6/52] [6/114] [6/142]
5B03720	Nut M16	43	[4/113]
5C00001	Washer PGS 0255 27	43	[4/106]
5C00005	Washer (B)	30	[4/46]
5C00013	Washer Internal Lock M3	37/99	[4/73] [6/21]
5C00017	Spring Washer M8 Tatsuno	43	[4/99]
5C00018	Spring Washer M6	43	[4/123]
5C00019	Washer (C)	30	[4/42]
5C04020	Washer Internal Lock M6	94/95	[5/81]
5C04200	Washer Spring M6	22/77/80/118	[4/7] [4/25] [5/20] [6/143]
5C04210	Washer Spring M8	22/28/31/40/44 60/77/80	[4/7] [5/18]
5C04400	Washer Flat Steel M3 x 9mm OD	37/100	[4/75] [6/35]
5C04410	Washer Flat Steel M4 x 11m OD	99	[6/16]
5C04410	Washer Flat Steel M4 x11OD	115/117	[6/115]
5C04440	Washer Flat M8	15/22/28/40/44 77/80	[3/3] [5/17]
5C04440	Washer Flat M8	22	[4/5]
5C04460	Washer Flat M6	77/80	[4/226] [5/22]
5C04460	Washer Flat Steel M6 x16OD	117	[6/144]
5C04470	Washer Fender ¼ ID x 1.25 OD	22	[4/9]
5C04500	Washer Internal Lock M4	25/76/98/115	[4/17] [6/11] [6/116]
5C04570	Washer Flat Steel M4 x 9mm OD	80/104	[5/14] [6/43]
5C06060	Washer Starlock 5.16 ID	94/95	[5/77]
5C83724	Washer Flat M4 x 12mm OD SS	80/94/95	[5/21]
5D00028	Bolt M8 x 22	30	[4/32]
5D00029	Grooved Pin (E Type)	30	[4/43]
5D00030	Capscrew Socket Head M6 x 20	84	[5/41]
5D00040	Capscrew Socket Head M6 x 25	85	[5/47]
5D00060	Setscrew M6 x 12 ZP	28/94/95	[4/28] [5/80]
5D00090	Setscrew M8 x 16 ZP	15/22/31/44/77/80	[3/2] [4/4] [4/159] [5/16]
5D00100	Setscrew M8 x 20 ZP	28/53/77	[4/30]



Part Number	Part Description	Page(s)	Item Number(s)
5D00110	Setscrew M8 x 25mm	53	[4/177]
5D00115	Screw M2 5x16 Pan HD	104	[6/45]
5D00120	Setscrew M8 x 30 ZP	44	[4/161]
5D00310	Bolt M8 x 45	43	[4/100]
5D00312	Bolt M8 x 20	43	[4/101]
5D00313	Bolt M8 x 25	43	[4/102]
5D00314	Flange Bolt M8 x 12	43	[4/104]
5D00317	Bolt M6 x 15	43	[4/122]
5D00318	Screw C/W Lock Washer	43	[4/146]
5D00380	Screw Brass M4x8 Pan HD	104	[6/48]
5D00530	Screw Posidrive M3 x 6 Pan HD	115	[6/117]
5D00540	Screw Steel M3 x 8 Pan HD	99/117	[6/22] [6/145]
5D00550	Screw Steel M3 x 10 Pan Head	37	[4/76]
5D00610	Screw Posi Pan Head M4 x 8	94/95	[5/83]
5D00650	Screw Posidrive Pan Head M4 x 12	80/98	[5/11] [6/12]
5D00660	Screw Posidrive Pan HD M4 x 16	99/117	[6/24] [6/146]
5D00930	Setscrew M8 x 45mm ZP	40/77	[4/85]
5D00960	Setscrew M6 x 16 ZP	22/77	[4/8]
5D01030	Capscrew Socket Head M6 x 30 SS	33	[4/53]
5D01100	Capscrew SH ¼ Whitworth x ¾ SS	85	[5/46]
5D01200	Setscrew ¼UNC x ¾ ZP	77	[4/225]
5D01210	Setscrew Engineers ¼ UNC x 1.25 ZP	74	[4/214]
5D01650	Screw Button Socket Head M6 x 16 SS	27, 80	[4/24] [5/19]
5D01660	Screw Posi Pan Head M4 x 12 Phil HD S/S	98	[6/9]
5D01665	Screw Posidrive Pan Head M4 x 20 SS	88	[5/62]
5D01670	Screw Button Socket Head M4 x 12 SS	25/80	[4/16] [5/12]
5D01691	Grubscrew ¼ UNC x 5/16 SS	84	[5/36]
5D01710	Screw Posidrive Pan Head M4 X 10	76/100/117	[4/219] [6/28] [6/147]
5D01840	Screw SS M4 x 10 CSK HD	115	[6/118]
5D01950	Screw Posi Pan HD M4x8 SS	115	[6/119]
5D02120	Self Tapper AB Pan Head 4 x ¼	37	[4/68]
5D02380	Self Tapper AB Pan Head 4 x ⅝	37	[4/70]
5D19910	U-Bolt 1¼ Pipe 304SS & Nuts 5/16	65	[4/199]
8A09011	Extension Pipe Assy Long Zinc Plated	49	[4/166]
8A82770	Meter Feed Pipe Assy	57	[4/191]
8A82778	Connector Assy	55	[4/181]
8A82857	Dispenser Del Pipe Assy	56	[4/186]
8A82873	Low Flow Bend Weld	57	[4/190]
8A83670	Meter Del Pipe Assy Short Zinc Plated	49	[4/163]
8A83672	Meter Del Pipe Assy Long Zinc Plated	49	[4/164]
8A83680	Riser Pipe Assy Pump Duo	49	[4/170]
8A83683	Riser Pipe Assy Pump Single	49	[4/169]
8A83685	Lower Del Pipe Assy BC Zinc Plated	49	[4/168BC]



Part Number	Part Description	Page(s)	Item Number(s)
8A83687	Upper Del Pipe Assy Zinc Plated	49	[4/167]
8A83689	Extension Pipe Assy Short Zinc Plated	49	[4/165]
8A83695	Riser Pipe Assy Disp Single	53	[4/171]
8A83696	Riser Pipe Assy Disp Duo	53	[4/172]
8A83802	Lower Del Pipe Assy Rael Zinc Plated	49	[4/168]
8A83847	Filter Extension Weld	57	[4/193]
8A83882	Filter Elbow Weld	57	[4/192]
8A83913	Meter Feed Pipe Weld	55	[4/180]
8A83917	Feed Pipe Weld LH	55	[4/184]
8A83924	Feed Pipe Weld RH	55	[4/185]
8A83929	Outlet Pipe Ultra	55	[4/182]
8A83934	Mixer Pipe Weld	57	[4/189]
8A87936	Test Valve Assembly ZP	43	[4/151]
Item No.	Spacer	43	[4/107]
Item No.	Flange	43	[4/110]
Item No.	Hex. Socket Headed Bolt	43	[4/111]
Item No.	Adjuster	43	[4/112]
Item No.	Bush	43	[4/124]
P00209	Inlet Strainer	43	[4/120]
P07434	Encoder Assembly Series II Spare	33	[4/52]
P33866	Encoder PCB Assembly Hi-Flow Spare	33	[4/55]
P820030	Flow Meter Tatsuno Spare	31	[4/50]
P820075	Pump Unit Tatsuno Spare	44	[4/156]
P821035	Motor Elnor Standard Spare	39	[4/77]
P8210351B	Motor Elnor Standard Spare (See table 2)	39	[4/78B]
P8210358B	Motor Elnor Standard Spare (See table 2)	39	[4/78A]
P821035HS	Motor Elnor Standard Spare (See table 2)	39	[4/78C]
P82750	Manifold	55	[4/183]
P82783	Encoder Cap & Cable Assembly	33	[4/54]
P83005	CEEPEC Hose Clamp Kit Spare	85	[5/50]
P83051	Flow Meter Tatsuno Lobe & Encoder Spare	32	[4/51]
P83116	CEEPEC Hi Arm Assembly 1" Spare	83	[5/31]
P83118	CEEPEC Hi Arm Assembly 5/8" Spare	83	[5/32]
P83580HS	EPROM vG2.35c (Main Processor) and vI1.29s (Input Processor) set	100	[6/32b]
P83580X	EPROM vG2.61c*	100	[6/32d]
P83621	Column Cover Single/Dual	80	[5/4]
P83622	Column Cover Duo/Quad/MPH	80	[5/5]
P83623	Column Cover Inner - CEEPEC	22/80	[4/2] [5/2]
P83630	Frame Cross Member 1000	27	[4/23]
P83640	Column Spine	80	[5/1]
P83653	GRP Panel Latch & Lock Tie Dual Spare	25	[4/19]
P83653U	GRP Panel Latch & Lock Tie Dual Ultra Spare	25	[4/20]



Part Number	Part Description	Page(s)	Item Number(s)
P83664	PCB Cover (Front)	99	[6/25]
P83666	Fluo Tube Mounting Bracket White	98	[6/4]
P83674	PCB Cover (Rear)	99	[6/26]
P83693	Column Cover Plain	80	[5/3]
P83708	Lock Tie	25	[4/13]
P83735	Pipe Spring Assembly 1"	86	[5/51]
P83771	Panel Assembly F & R - CEEPEC	22	[4/3]
P83787	Logic Control Box Assembly - Spare	37	[4/66]
P83801	Display/Preset PCB Assy LH	107	[6/72]
P838016	Display/Preset PCB Assy 6 Digit LH	107	[6/74]
P83806	Display/Preset PCB Assy RH	107	[6/73]
P838066	Display/Preset PCB Assy 6 Digit RH	107	[6/75]
P83821	Cable Connection PCB Assembly1000	37	[4/69]
P83838	Vent Pipe Assy Spare	54	[4/173]
P83851	Power Supply PCB Assy MK2	100	[6/34]
P83866	AC Control PCB Assy MKII 1000	100	[6/27]
P83874	CEEPEC Hi Arm Assembly Ultra Spare	83	[5/33]
P83879	800mg High Vol Filter Assy 10 Microns	64	[4/196]
P83880	800mg High Vol Filter Assy 30 Microns	64	[4/196a]
P83918	Lock Tie - Ultra	25	[4/14]
P83938	Bypass Pipe Assy	57	[4/188]
P83956	Tote PCB Assy MkIII	108	[6/78]
P839561	Tote Assembly Single	108	[6/76]
P839562	Tote Assembly Dual	108	[6/77]
P83958	Column Cover Single Ultra	80	[5/6]
P83983	CEEPEC Head Door Assy 6 Digit - Spare	103	[6/36]
P852530	Solenoid Valve Asco ¾" Spare (Deleted)	36	[4/58]
P852535	Solenoid Valve Asco 1" Spare	36	[4/60]
P852536	Solenoid Valve Asco 4 Product Spare	36	[4/61]
P852537	Solenoid Valve Asco PAXD210D4V Spare	36	[4/59]
P87216	Power Regulator PCB Assy Type1	100	[6/33]
P87226	Processor PCB Assy Type 1	100	[6/30]
P87380	EPROM vP2.61c*	100	[6/32c]
P87380HSD	EPROM vP2.35c (Main Processor) and vI1.29s (Input Processor) set	100	[6/32a]
P88057	Positrip Replacement Kit	124	[7/24]
P88920	Filter Assembly Cimtek Spare 10 Microns	54	[4/179]
P88950	Filter Assembly Cimtek Spare 30 Microns	54	[4/179a]
P92380	EPROM vC2.61c*	100	[6/32e]
P92752	Nozzle Switch Magnet Assembly V2 Spare	94/95	[5/84]
X0105	NZFP Hose Sealing Washer ¾"	124	[7/22]
X0106	NZFP Hose Sealing Washer 1	124	[7/23]



