



# Teatwand EXACT

## TEATWAND EXACT SERVICE SCHEDULE, UK / EUROPE

VERSION 2.1

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ONFARM SOLUTIONS LIMITED

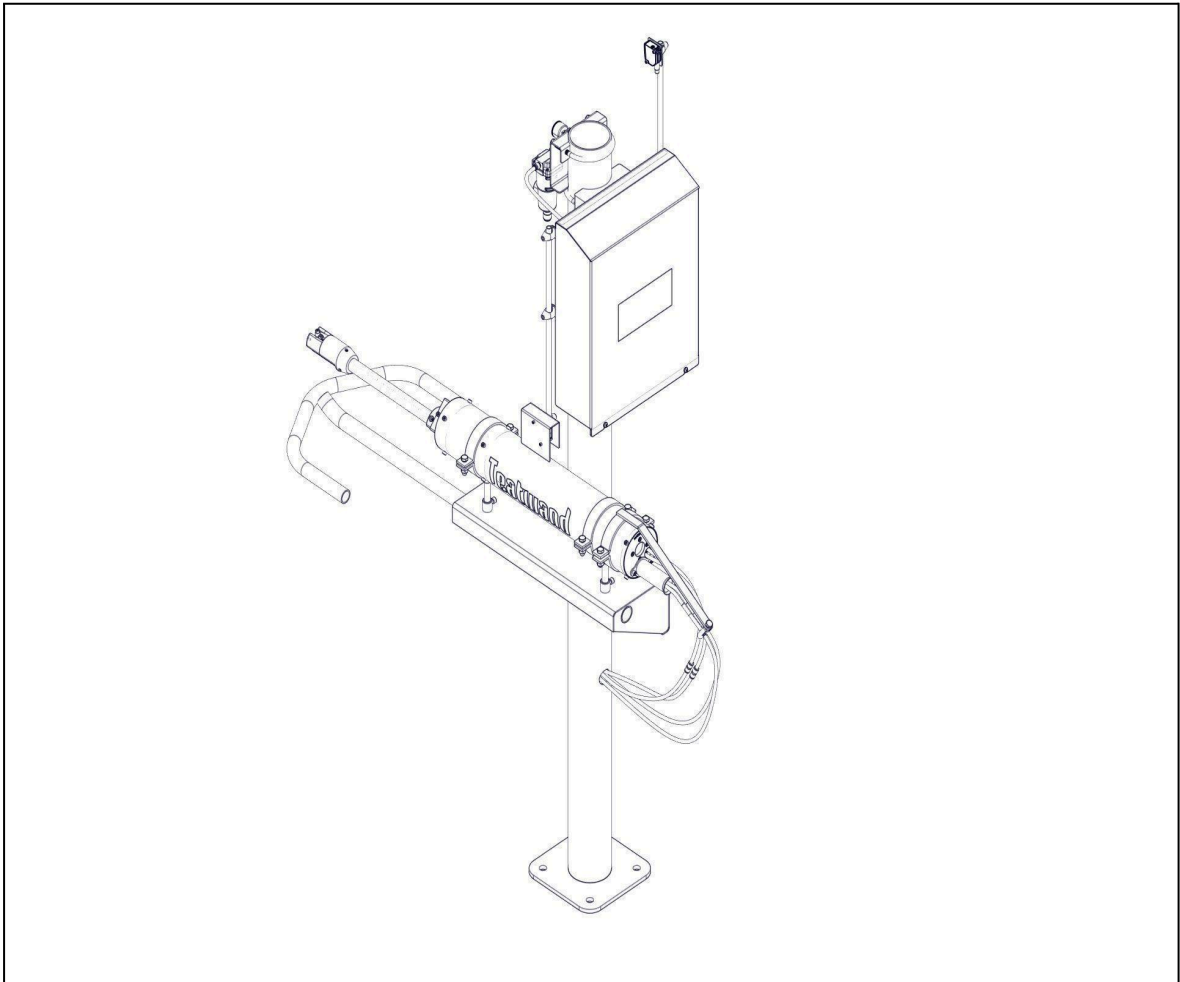
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## Tips on how to use this Manual.

- Service Technicians - follow the Teatwand Exact Predictive Maintenance Schedule.
- Selecting a Maintenance Schedule - Identify the correct schedule to use for the dairy.
- The replacement of components is covered in the relevant sections of this manual.
- Sensors – this section will give you an understanding of what each sensor does and how to set them up correctly.
- Navigating the Touchscreen – get to know the touchscreen pages.
- Troubleshooting section will help with diagnosing problems.
- Appendix – A3 size drawings are at the back of this manual

## **Teatwand™ Exact Servicing and Maintenance.**

Regular servicing and maintenance are essential for the reliability and correct operation of the system. Daily and weekly checklists are provided. These checks are to be done by the dairy staff. More in-depth servicing and maintenance tasks will be carried out by service technicians. The frequency of servicing and maintenance will relate to the size of the dairy operation. Refer to the Predictive Maintenance Schedule that relates to the dairy.

## **Teatwand Exact Predictive Maintenance Schedules.**

The aim of these predictive maintenance schedules is to keep your Teatwand System operating without unexpected component failures by replacing components before their predicted end of life. This is based on the number of daily operations, recommendations from our component suppliers and Onfarm Solutions experience with over 200 systems installed throughout the world.

These predictions rely on certain criteria being met such as compressed air quality and following Onfarm Solutions installation recommendations. There are also local environmental situations that can affect the life of certain components, e.g. where sand is used as a bedding medium the Square Bearings and Inner Tube will wear more quickly.

**Warning – ensure Power and Air to the system is turned off before carrying out certain maintenance checks.**

**Note: Predictive maintenance must be completed to ensure warranty is up held.**

The 12 month warranty does not cover consumable components, for example teat spray hoses, the spring and the nozzle mount and nozzle holder.

## **Daily Checklist for Teatwand Exact System.**

To be carried out by dairy staff.

- Visually check system operation. Watch a minimum of 10 stalls.
- Check nozzles are vertical – loosen 3 grub screws in black nozzle housing, realign, tighten grub screws.
- Ensure spray pattern is reaching teats – adjust spray settings if necessary.
- Check the air pressure on the Air Service Unit is set at 90psi.
- Check the Teatwand is not hitting cows legs.

## **Weekly Checklist for Teatwand Exact System.**

To be carried out by dairy staff.

- Check all cap screws on Teatwands are tight. 4 on the square box section at the front, 4 around the diameter of the Teatwand body at the back and 4 in the back plate.
- Check all bolts and clamps are tight.
- Check sensor clamps are tight.
- Check filter located at teat spray pump is clean.
- Check air pressure to teat spray pump is at correct level (35psi to 60psi)
- Check moving spray lines – if any wear is obvious replace ASAP.
- Clean the faces of all sensors – Stall sensors, cow sensors and cow position sensors.

**Report any problems to the local service agent immediately.**

## **Selecting a Maintenance Schedule.**

To be carried out by a Service Technician.

To select the correct Maintenance Schedule for the dairy, calculate the number of daily milking's at the dairy. For example, a dairy milking 700 cows 2 times a day will be 1400 milking's a day. Select Schedule 1 – up to 3000 milking's per day. A dairy milking 1200 cows 3 times a day will be 3600 milking's per day. Select Schedule 2 – 3000 to 5000 milking's per day.

Refer to instructions later in this manual for details of how to correctly undertake the Maintenance Schedule recommendations.

## **Important points to note.**

- 1. Is the system set up correctly? If the Teatwand is hitting cows legs, premature wear will occur to the:**

Air cylinder seals  
Spring  
Nozzle holder  
Square Bearings  
Pneumatic Cylinder Bush.

To set up the Teatwand system refer to the Stall/Bail Timing section (pages 39 & 40). Setting up must be done during a milking session to observe actual, real time operation.

- 2. Where sand is used as a bedding medium the life of the following components will be reduced:**

Square Bearings  
Inner tube  
Air Cylinder seals  
Pneumatic Cylinder Bush  
Pneumatic Cylinder Elbows

Teatwand have a retrofittable wash nozzle and solenoid that washes the extending arm. Having the wash nozzle fitted will extend the life of these components.

- 3. It is important to have clean, dry compressed air.**

The Teatwand systems have Air Service Units to help mitigate against dirty air but the better the quality of compressed air the longer the pneumatic components will last.

- 4. If teat spray chemical is changed it is necessary to flush the teat spray circuit.**

Some chemicals react with each other and can cause blockages. Refer to the Flushing the System section.

Unexpected events can happen in busy dairies resulting in damage to equipment. Teatwand recommend to our dealers that they carry a stock of spare parts to be prepared for accidental damage that may occur.

The following schedules should be followed to avoid untimely end-of-life component failures.

### **Important:**

**Before undertaking any Service work or Maintenance disable the system by pressing the Stop button on the Home Screen at the Controller and turn the compressed air off at the Air Service Unit. This will exhaust residual air pressure from the system.**

## **Schedule 1. For Dairies with up to 3000 milking's per day.**

### **Two Monthly Maintenance.**

- Include Daily and Weekly Checks.
- Check the system is set up correctly and not hitting cows legs.
- Remove Controls Cabinet cover and inspect for leaks or loose connections.
- Replace Spray lines. *TU001*
- Replace 8mm Unions. *PN024*
- Check and clean teat spray nozzles. Replace if spray pattern is irregular. *FF003*

### **Six Monthly Maintenance.**

- Include Two Monthly Maintenance.
- Replace Spring if worn or bent. *SP004EX*

### **Annual Maintenance.**

- Include Six Monthly Maintenance.
- Check Nozzle End Spring Holder. Replace if necessary. *TWEX5006*
- Check Nozzle Holder. Replace if necessary. *TWEX5007*
- Check Aluminium Spring Block. Replace if necessary. *TWEX5005*

### **Two Yearly Maintenance.**

- Include Annual Maintenance.
- Reseal Teatwand pneumatic cylinder. *SK003EX*.  
If cylinder is worn or corroded, replace it. *CY500EX*
- Replace 8mm elbows on pneumatic cylinder. *PN033*
- Replace Pneumatic Cylinder Bush. *TWEX5009*
- Replace Extend Solenoid. *PN035*
- Replace Speed Controllers. *PN003*
- Replace Floating Joint. *TWEX5010*
- Replace Spray Valves. *FF054*.
- Check Square Bearings replace if excessively worn. x2 *TWEX5003*

## **Schedule 2. For Dairies with 3000 to 5000 milking's per day.**

### **Monthly Maintenance.**

- Include Daily and Weekly Checks.
- Check the system is set up correctly and not hitting cows legs.
- Remove Controls Cabinet cover and inspect for leaks or loose connections.
- Replace Spray lines. *TU001*
- Replace 8mm Unions. *PN024*
- Check and clean teat spray nozzles. Replace if spray pattern is irregular. *FF003*

### **Three Monthly Maintenance.**

- Include Monthly Maintenance.
- Replace Spring if worn or bent. *SP004EX*

### **Six Monthly Maintenance.**

- Include Three Monthly Maintenance.
- Check Nozzle End Spring Holder. Replace if necessary. *TWEX5006*
- Check Nozzle Holder. Replace if necessary. *TWEX5007*
- Check Aluminium Spring Block. Replace if necessary. *TWEX5005*

### **Annual Maintenance.**

- Include Six Monthly Maintenance.
- Reseal Teatwand pneumatic cylinder. *SK003EX*.  
If cylinder is worn or corroded, replace it. *CY500EX*
- Replace 8mm elbows on pneumatic cylinder. *PN033*
- Replace Pneumatic Cylinder Bush. *TWEX5009*
- Replace Speed Controllers. *PN003*
- Replace Floating Joint. *TWEX5010*
- Check Square Bearings replace if excessively worn x2 *TWEX5003*

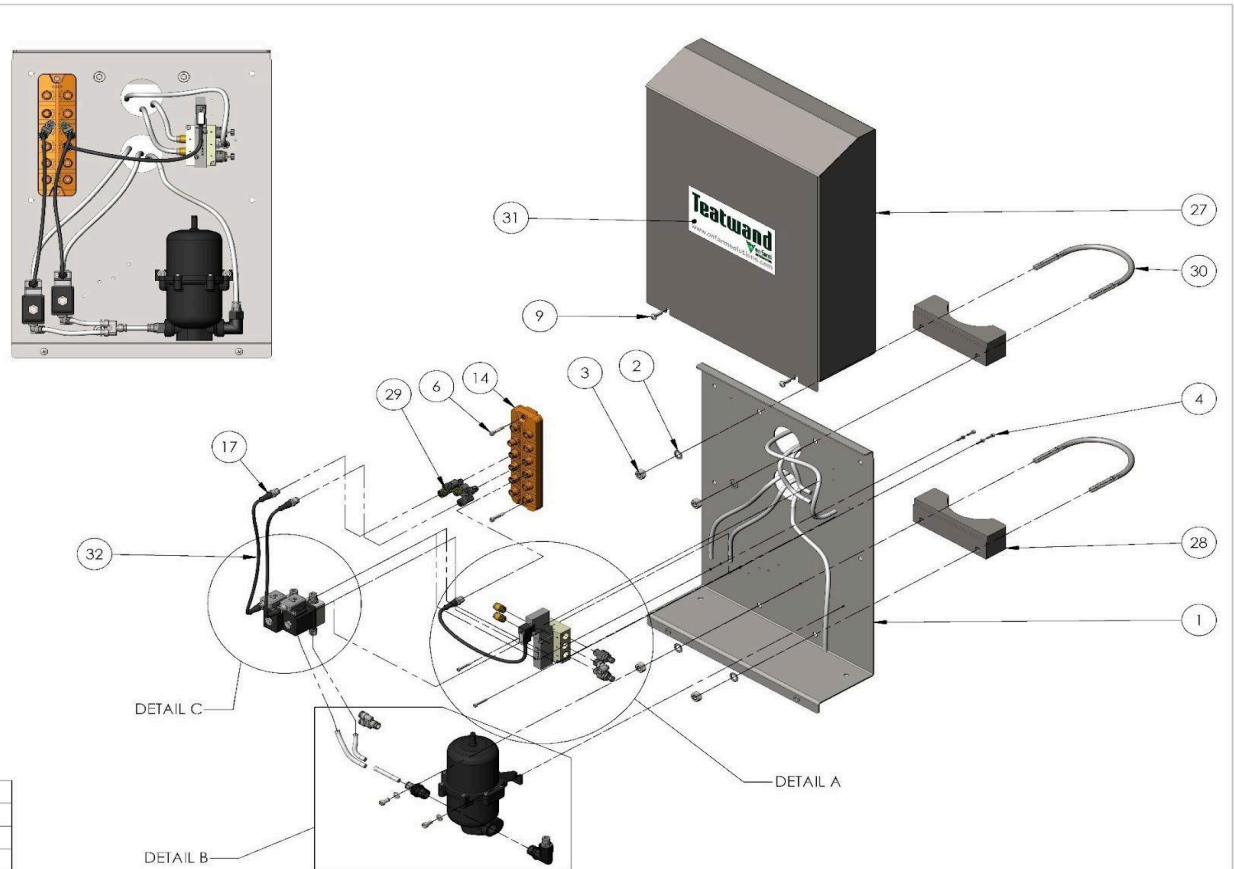
### **Two Yearly Maintenance.**

- Include Annual Maintenance.
- Replace Square Bearings x2 *TWEX5003*
- Replace Extend Solenoid. *PN035*
- Replace Spray Valves. *FF004*.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	BR045	Pole Mount Control Box Gear Tray	1
2	FIX063	M10 Spring Washer	4
3	FIX062	M10 Nut	4
4	FIX077	M4 X 12 Cap Screw 304 SS	4
5	FIX007	M6 X 12 Cap Screw 304 SS	2
6	FIX109	M4 X 12 Cap Screw SS	2
7	FIX017	M4 X 25 Cap Screw SS	2
8	FIX076	M6 Plain Washer	2
9	FIX047	Button Head Screw M6 X 16 304 SS	2
10	FF002	Teatwand Accumulator	1
11	PN034	Extend Solenoid Base EX500	1
12	PN035	24V Extend Solenoid EX500	1
13	C007	Extend Sol Cable EX500	1
14	CON070	8 Port I/O Link Master	1
15	PN003	Speed Controller/Exhaust Filling	2
16	PN038	8mm Elbow 1-4 BSP	1
17	CON027	M12-male straight A-Cod 5-pol	3
18	PN005	Hex Fitting 8mm - 1/4"	2
19	FF047	Snap in Viton elbow with 1/2 inch thread as Machined	1
20	PN118	Straight 8mm - 1/4 BSPP SS	4
21	FF054	Teatspray Valve 1/4" S/S	2
22	C026	Single Solenoid Plug	2
23	PN061	8mm Y Connector	1
24	FF044	1/2" NPT Snap in fitting	1
25	PN117	Elbow 8mm to 1/4 BSPP SS	2
26	TU001	8mm Tubing Polyethylene Natural	260mm
27	BR045	Control Box Cover	1
28	BR067	U - Bolt Bracket	2
29	C023	M12 T Coupler	2
30	BR054	Pole Ubolt (4 inch pipe)	2
31	ST005	Teatwand Decals Large	1
32	C022	Sensor Cable 0.6m M12 Male - M12 Female	2
35	Hosing		1

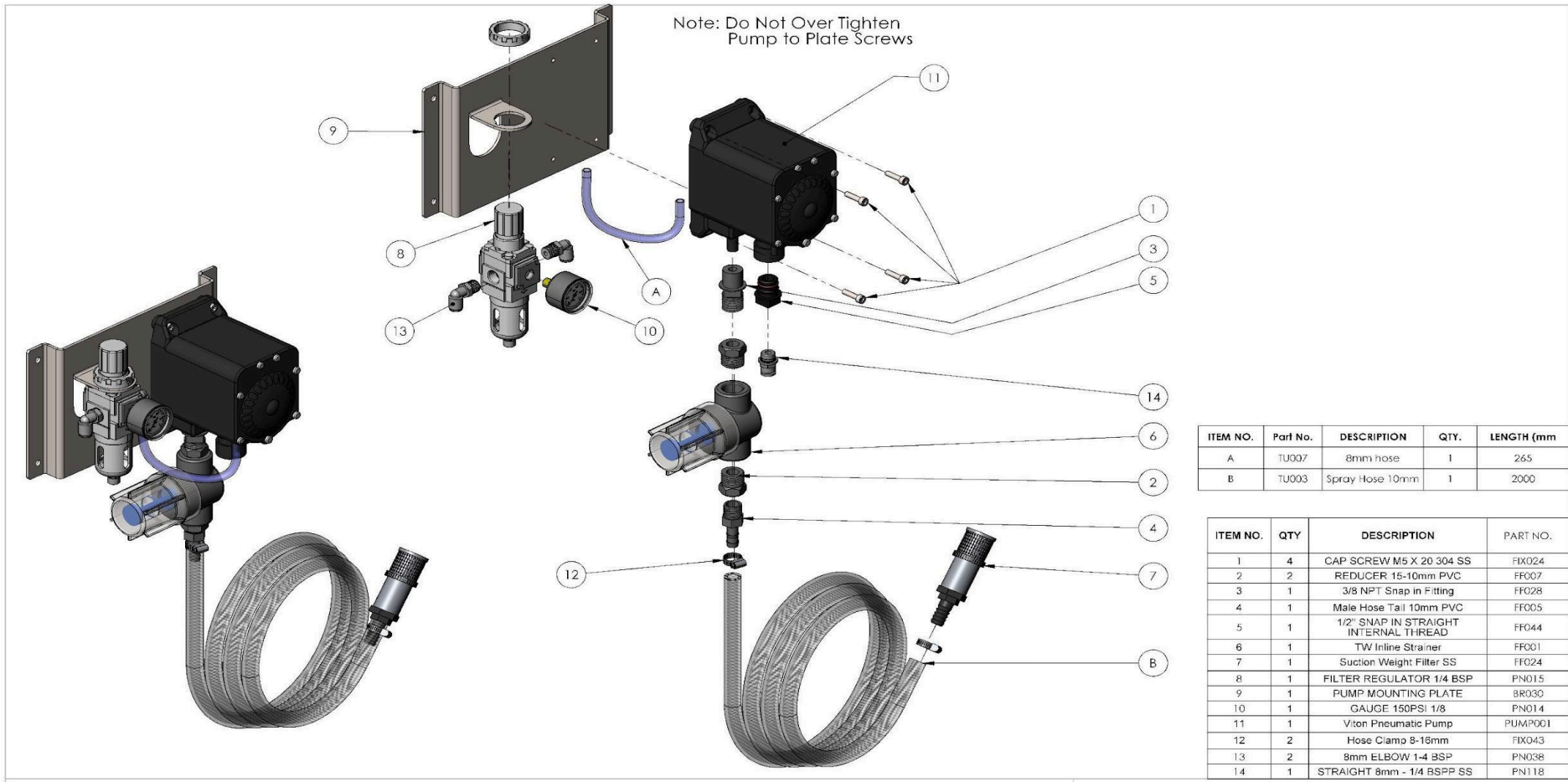
ITEM NO.	QTY	DESCRIPTION	PART NO	LENGTH (mm)
A	1			120
B	1	8mm Tubing Polyethylene Natural	TU001	75.5
C	1			57



REV	NAME	DATE	DESCRIPTION

FABRICATION TOLERANCES WHERE NOT STATED			MACHINING TOLERANCES WHERE NOT STATED		<p>THIS DRAWING, INCLUDING THE INFORMATION EMBODIED HEREIN IS PROPRIETARY AND CONFIDENTIAL TO ONFARM SOLUTIONS. THE DRAWING IS NOT TO BE REPRODUCED, COPIED OR TRANSMITTED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF ONFARM SOLUTIONS.</p>	MATERIAL	Material <not specified>	
ABOVE	INCL.	TOL +/-	6.3	ROUGH		OPEN DIMS	± 0.3 mm	
0	100	0.5mm	3.2	SMOOTH		DEC DIMS	± 0.1 mm	
100	500	1.0mm	1.6	GROUND				
>300		3.0mm						
							<b>THICKNESS</b> <b>SURFACE FINISH</b> <b>MASS (KG)</b>	<b>Material &lt;not specified&gt;</b>  <b>13.64</b>

SKU	TWEX110		<b>TWEX110</b> DRAWING NO.	<b>A3</b> DRG SIZE	<b>A</b> REV
<b>DRAWN</b>	JMB				
<b>CHECKED</b>					
<b>APPROVED</b>					
<b>SCALE</b>	1:10				
<b>DATE</b>	27/09/2024	<b>DATE</b>	27/09/2024		



ITEM NO.	Part No.	DESCRIPTION	QTY.	LENGTH (mm)
A	TU007	8mm hose	1	265
B	TU003	Spray Hose 10mm	1	2000

ITEM NO.	QTY	DESCRIPTION	PART NO.
1	4	CAP SCREW M5 X 20 304 SS	FFX024
2	2	REDUCER 15-10mm PVC	FF007
3	1	3/8 NPT Snap In Fitting	FF028
4	1	Male Hose Tail 10mm PVC	FF005
5	1	1/2" SNAP IN STRAIGHT INTERNAL THREAD	FF044
6	1	TW Inline Strainer	FF001
7	1	Suction Weight Filter SS	FF024
8	1	FILTER REGULATOR 1/4 BSP	PN015
9	1	PUMP MOUNTING PLATE	BR030
10	1	GAUGE 150PSI 1/8"	PN014
11	1	Viton Pneumatic Pump	PUMP001
12	2	Hose Clamps 8-16mm	FFX043
13	2	8mm ELBOW 1-4 BSP	PN038
14	1	STRAIGHT 8mm - 1/4 BSPP SS	PN118

REFERENCE DRAWINGS			
E	MIKE	28-03-24	Tube Table Added
D	GRANT	28-04-21	3/8" Snap In Fitting Changed to 1/2" Snap In Fitting
C	GRANT	20-04-21	1/2" TO 3/8"
B	GRANT	26-06-20	FILTER REGULATOR SUB-ASSEMBLY DISSOLVED
REV	NAME	DATE	DESCRIPTION

FABRICATION TOLERANCES WHERE NOT STATED		
ABOVE	INCL.	TOL +/-
0	100	0.5mm
100	500	1.0mm
>500		3.0mm

MACHINING SURFACE FINISHES WHERE NOT STATED	
	ROUGH
	SMOOTH
	GROUND

MACHINING TOLERANCES WHERE NOT STATED	
OPEN DIMS	± 0.3 mm
DEG DIMS	± 0.1 mm

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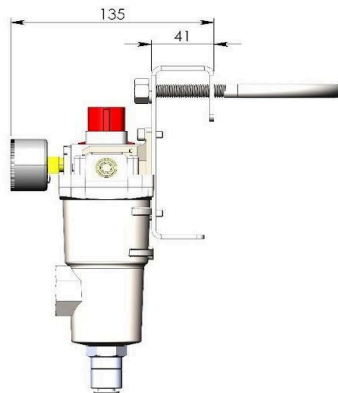
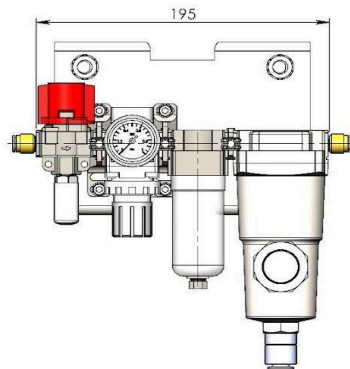
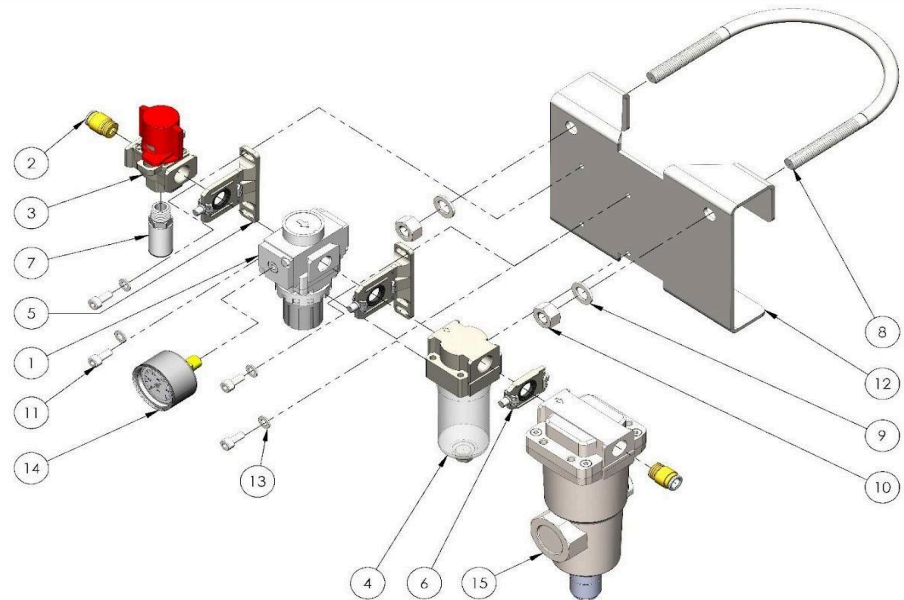
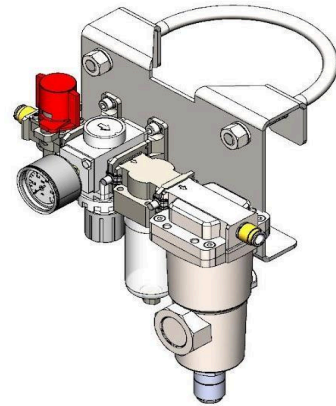
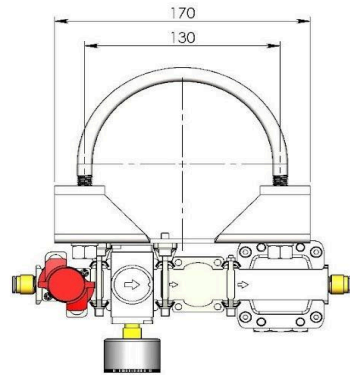
**PUMP & REGULATOR ASSEMBLY**

MASS(KG)	.
DRAWN	G.C
CHECKED	.
APPROVED	.
SCALE	1:3.5
DATE	05-07-19

**900-01-105**

DRAWING NO.

A3	E
DRG SIZE	REV



ITEM NO.	QTY.	DESCRIPTION	PART NO.
1	1	REGULATOR	AI002
2	2	HEX FITTING 8mm - 1/4"	PN005
3	1	VALVE LOCKABLE DUMP 3/2 1/4	PN105
4	1	FILTER 1/4 5 MICRON.NC DRAIN	PN106
5	2	TEE BRACKET	PN107
6	1	Y-SPACER	PN108
7	1	COMPACT RESIN SILENCER 1-8 BSPT	PN109
8	1	POLE UBOLT (4 INCH PIPE)	FIX061
9	2	M10 SPRING WASHER	FIX063
10	2	M10 Nut	FIX062
11	4	CAP SCREW M5 X 12 304 SS	FIX019
12	1	EXACT AIR SERVICE POLE MOUNT BRACKET	BR059
13	4	M6 FLAT WASHER SS	FIX117
14	1	GAUGE 150PSI 1/8"	PN014
15	1	WATER SEPERATOR	PN019

**AIR SERVICE UNIT TEATWAND EXACT**

SKU	ASU-EX
DRAWN	GC
CHECKED	
SCALE	1:3
DATE	30/09/2024
SHEET	1 OF 1



**900-01-102**

DRAWING NO.

A3	A
DRG SIZE	REV

FABRICATION TOLERANCES WHERE NOT STATED		
ABOVE	INCL.	TOL +/-
0	100	0.5mm
100	500	1.0mm
>500		3.0mm

MACHINING SURFACE FINISHES	
▽ 6.3	ROUGH
▽ 3.2	SMOOTH
▽ 1.6	GROUND

MACHINING TOLERANCES WHERE NOT STATED	
OPEN DIMS	+/- 0.3 mm
DEC DIMS	+/- 0.1 mm

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MATERIAL	As Per BOM
THICKNESS (mm)	
SURFACE FINISH	
MASS (Kg)	