

# DYNAJET® FLEX 7140

## INSTALLATION, SETUP AND USER GUIDE

Software version 1.03  
with optional dual nozzle mode



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TECHNOLOGIES

A Subsidiary of  Spraying Systems Co.®

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## Safety Information

TeeJet Technologies is not responsible for damage or physical harm caused by failure to adhere to the following safety requirements.

As the operator of the vehicle, you are responsible for its safe operation.

The DynaJet Flex is not designed to replace the vehicle's operator.

Be sure that the area around the vehicle is clear of people and obstacles before and during engagement.

The DynaJet Flex is designed to support and improve efficiency while working in the field. The driver has full responsibility for the quality and work related results.

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# DynaJet® Flex 7140

## DYNAJET® FLEX OVERVIEW

The DynaJet Flex controller works in conjunction with an existing rate controller that regulates flow via a control valve or pump regulation to achieve a target application rate while maintaining target droplet size(s) when a speed change occurs. This system only works with automatic rate controllers that use flow based monitoring systems and not pressure based monitoring systems. Automatic rate controllers equipped for both flow and pressure based control should have the pressure-based system disabled to work in conjunction with DynaJet Flex.

The independent automatic rate controller loop performs the same as it would if the DynaJet Flex controller were not present. The DynaJet Flex controller changes flow output to each individual nozzle based upon input provided from the operator about the optimum droplet size (pressure) for the application.

## INSTALLATION

### CONSOLE

The DynaJet Flex console is designed to provide years of service under typical agricultural and turf operating conditions. A tight fitting enclosure means that typical dusty environments will not cause operational problems. While occasional splashing of water will not damage the unit, the DynaJet Flex console is not designed for direct exposure to rain. Take care not to operate the DynaJet Flex console in wet conditions.

Figure 1: DynaJet Flex 7140 console front and back



## INSTALLATION

### DynaJet Flex® drivers

There will be one DynaJet Flex driver 78-05124 per eight (8) nozzles.

- Mount each DynaJet Flex driver centered within the eight (8) nozzles it controls.

### Power

Power will be sourced from the battery using the 60 amp fused cable 45-05943.

Power from the battery will be routed to the boom using the 6 gauge power cables 45-05942-xx

The Power distribution modules 78-05121-xx will connect to the 45-05942-xx cables.

Power will then route from 78-05121-xx to each DynaJet Flex driver 78-05122 using cables 45-05971-xx, and 45-05997-xx or 45-05998-xx.

### Nozzle harnesses

When installing Nozzle harnesses 45-04005-xx-xx always start with section 1 and continue to the last section.

Nozzle harnesses are designed for your specific nozzle spacing.

Always start with nozzle #1 and work left to right (while facing in the machine's forward direction).

### CAN cables & terminators

The Start terminator 45-04006-START must be connected to the DynaJet Flex driver 78-05124 for section 1.

CAN cables must be connected in series.

The End terminator 45-04006-END must be connected to the Driver module 78-05124 for the last section.

### DynaJet Flex® interface

The DynaJet Flex interface 78-05123 connects to the DynaJet Flex interface harness 45-10193:

The DynaJet Flex interface harness connects to

- The Console 75-30119 (extension cable may be used)
- Power 12V for powering the CAN
- CAN
- Pressure sensor
- Boom sense

The DynaJet Flex interface can be mounted in the cab or outside depending upon your installation.

### Boom interface module (BIM) (optional)

The Boom interface module (BIM) 78-05091 is used by the DynaJet Flex system for boom sense.

The BIM harness connects between the BIM and the CAN.

On the BIM harness 45-10195, the Boom sense wires (or flying leads) are supplied to tie into existing machine boom section 12V ON/OV OFF outputs.

If not using 45-10195, some machine specific harnesses are available.

The BIM can be mounted in the cab or outside depending upon your installation.

### Pressure sensor interface (optional)

Pressure sensor interface 78-05133 can be used if the DynaJet Flex interface is mounted in the cab and there is a substantial distance to the boom.

- The Pressure sensor interface should be mounted close to the boom manifold

Figure 2: Installation diagram

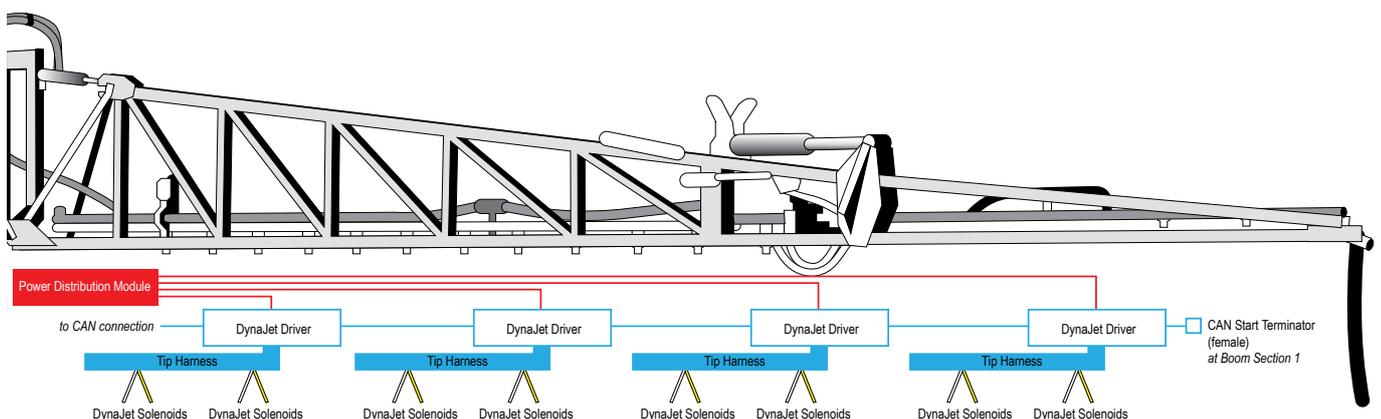
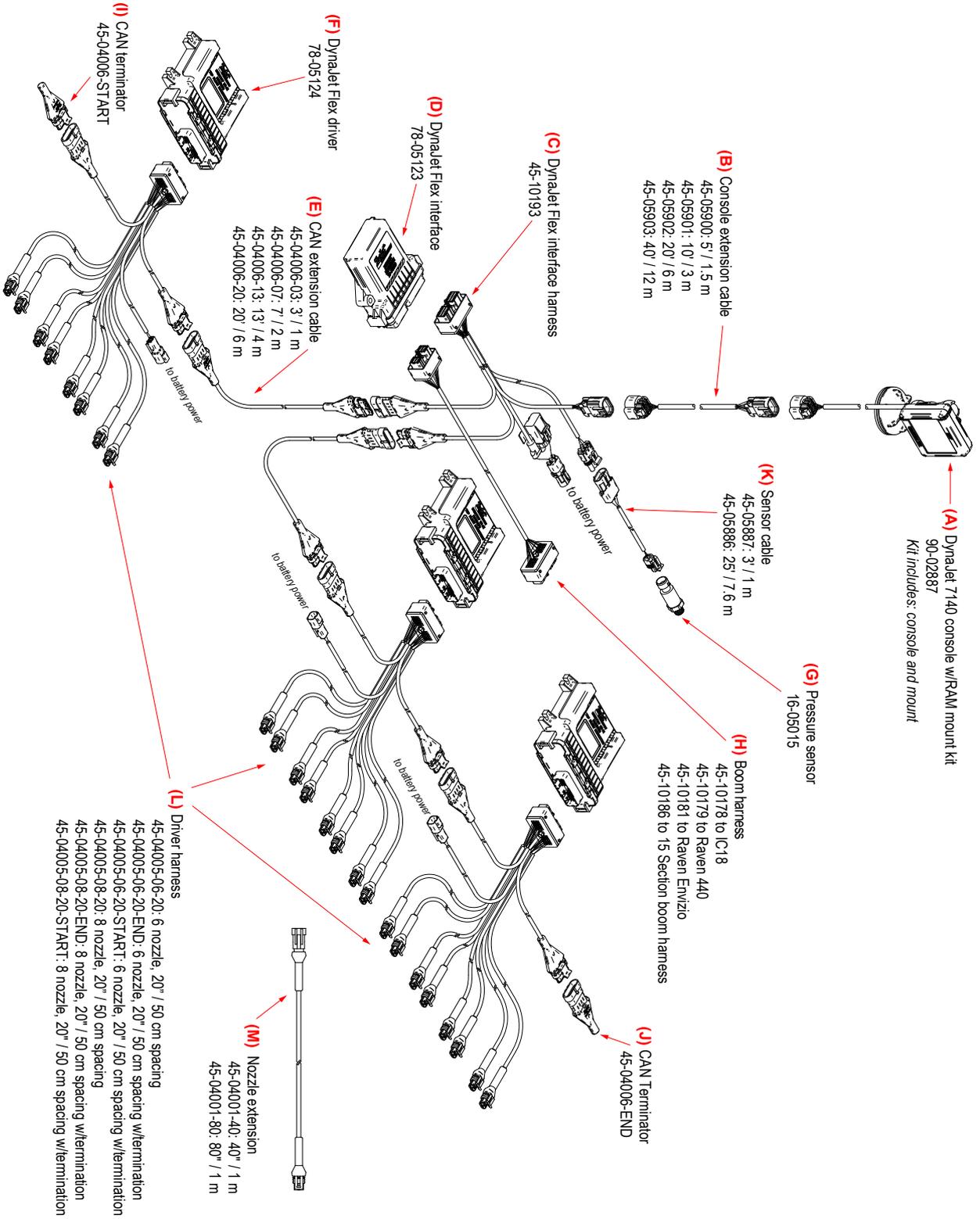
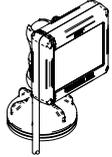
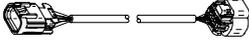
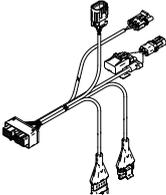
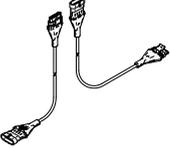
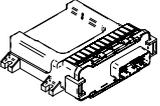
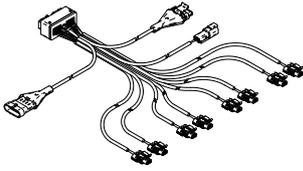


Figure 3: System diagram



Item	Part #	Description	Illustration
<b>A</b>	90-02887	DynaJet Flex 7140 console	
<b>B</b>	45-05900: 5' / 1.5 m 45-05901: 10' / 3 m 45-05902: 20' / 6 m 45-05903: 40' / 12 m	Console extension cable	
<b>C</b>	45-10193	DynaJet Flex interface harness	
<b>D</b>	78-05123	DynaJet Flex interface	
<b>E</b>	45-04006-03: 3' / 1 m 45-04006-07: 7' / 2 m 45-04006-13: 13' / 4 m 45-04006-20: 20' / 6 m	CAN extension cable	
<b>F</b>	78-05124	DynaJet Flex driver	
<b>G</b>	16-05015	Pressure sensor	
<b>H</b>	45-10178 to IC18 45-10179 to Raven 440 45-10181 to Raven Envizio 45-10186 to 15 Section Boom Harness	Boom harness	
<b>I</b>	45-05855	CAN terminator-START	
<b>J</b>	45-05856	CAN terminator-END	
<b>K</b>	45-05887: 3' / 1 m 45-05886: 25' / 7.6 m	Pressure sensor cable	
<b>L</b>	45-04005-06-20: 6 nozzle, 20" / 50 cm spacing 45-04005-06-20-END: 6 nozzle, 20" / 50 cm spacing w/termination 45-04005-06-20-START: 6 nozzle, 20" / 50 cm spacing w/termination 45-04005-08-20: 8 nozzle, 20" / 50 cm spacing 45-04005-08-20-END: 8 nozzle, 20" / 50 cm spacing w/termination 45-04005-08-20-START: 8 nozzle, 20" / 50 cm spacing w/termination	Driver harness	
<b>M</b>	45-04001-40: 40" / 1 m 45-04001-80: 80" / 2 m	Nozzle extension	

## INITIAL STARTUP

This section will explain basic setup of the values required for first-time setup of a DynaJet Flex system. When these settings are completed, initial operation and fine-tuning should be possible.

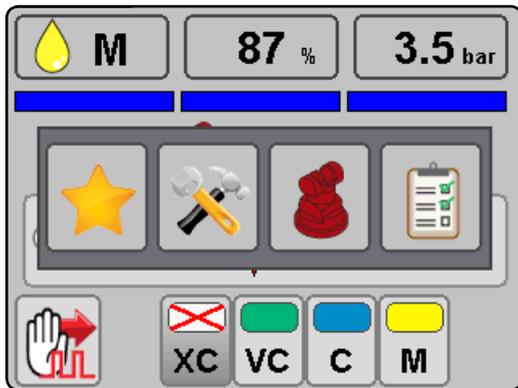
To access setup menu from the work screen, touch centre of the screen.

1. Select from:

- ▶ Favorites – The FAVORITE icon ★ represents favorite spray nozzles. This function automatically stores the most recent five (5) nozzles chosen. Use this to quickly access your most frequently used spray nozzles.
- ▶ Setup – The SETUP icon ⚙️ is used to access settings. This will enter the configuration menu.
- ▶ Nozzle selection – The SPRAY NOZZLE icon 📌 is used to select the spray nozzle style and capacity. Once chosen here, the spray nozzle style and capacity is automatically added to the favorites list.
- ▶ Diagnostics – The DIAGNOSTICS icon 📄 is used to diagnose and operating issues of the system and booms. The diagnostics menu is described in the operations chapter.

2. Press HOME icon 🏠 to return to the main work screen.

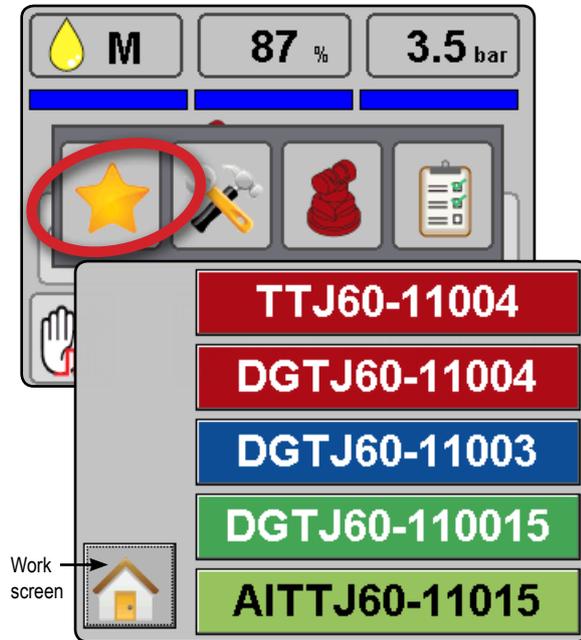
Figure 4: Options menu



## Favorites

- ★ The favorite icon represents favorite spray nozzles. This function automatically stores the most recent five (5) nozzles chosen. Use this to quickly access your most frequently used spray nozzles.

Figure 5: Favorites

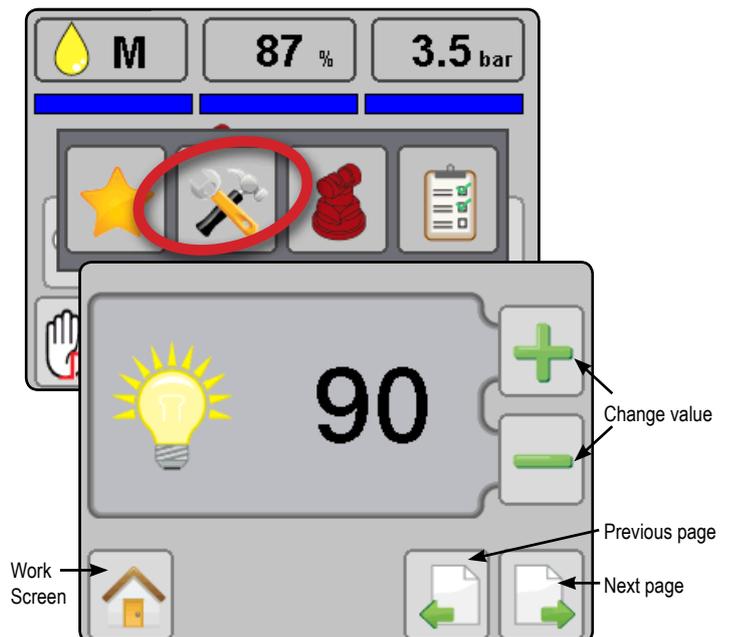


## Setup

- ⚙️ The setup icon is used to access settings. This will enter the configuration menu. Selections are automatically saved when adjusted.

NOTE: Not all settings are listed below. See "User settings" section of this guide for additional settings and details.

Figure 6: Setup



## Units

Sets the units to US (psi) or Metric (bar).

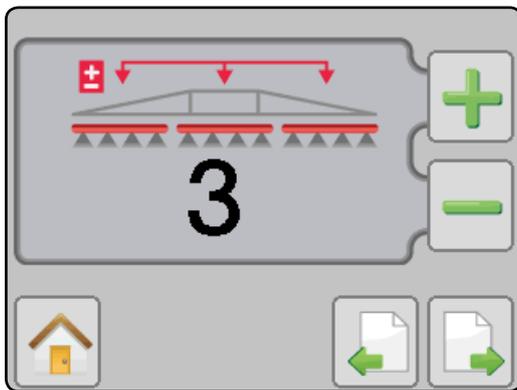
Figure 7: Units



## Number of sections

Set the number of boom sections. This should match the number of sections used on the spray controller. Range is 1 to 15.

Figure 8: Number of sections



## Number of nozzles

Set the number of nozzles for each section. This value should match the number of nozzles used on the spray controller. When programming is complete, values should match and show in green. Range is 1 to 120.

- ▶ Green matching values indicate a match between the number of nozzles detected and the number of nozzles programmed.
- ▶ Red mismatching values indicate a mismatch between the number of nozzles detected and the number of nozzles programmed.

**NOTE:** Mismatched values will stop screen advancement until number of nozzles detected and number of nozzles programmed match

Figure 9: Number of nozzles – Match

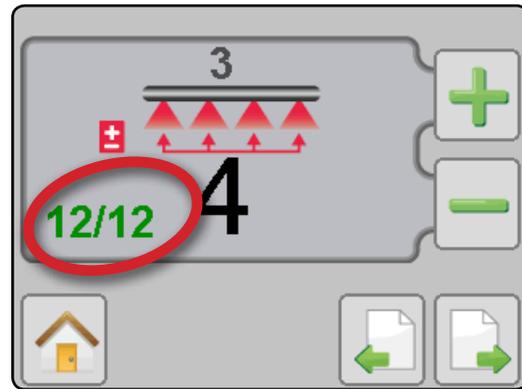


Figure 10: Number of nozzles – Mismatch



## Maximum pressure sensor value

Verify this value by looking at the pressure sensor description. Values will be either 10 bar or 25 bar.

If pressure value displayed on the DynaJet Flex console are not accurate compared to a mechanical gauge, adjust this value until there is a match.

- ▶ Increasing the value will reduce the pressure value displayed during operation
- ▶ Decreasing this value will increase the pressure value displayed during operation

Figure 11: Max. pressure sensor value



## Nozzle selection

 Accesses the nozzle selection process to select which nozzle is to be used. At this time only TeeJet nozzles are supported.

Figure 12: Nozzle selection



### Select nozzle series

Use the green up and down arrows to highlight the correct spray nozzle series/family.

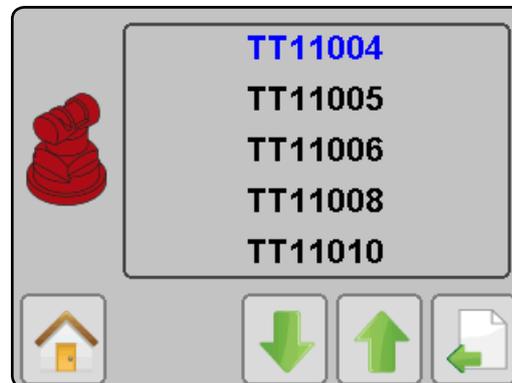
Figure 13: Select nozzle series



### Select nozzle capacity

With the correct nozzle capacity highlighted, select the HOME icon  to return to operating mode. The selected nozzle will be active and will automatically be added to the favorites list.

Figure 14: Select nozzle capacity



## Ready to pressure test the system

1. Ensure that current rate control system is operating at the optimum level. Set DynaJet Flex operating mode to manual and set PWM duty cycle at 100%. This will make the system operate as if DynaJet Flex was not present. Use this configuration to verify the rate control system is operating normally.
2. Keep DynaJet Flex operating mode on manual and change PWM duty cycle to 50%. Use this configuration to verify the rate control system is operating normally.
3. Confirm boom section functionality by observing the row of rectangles below the on the operating display. Switch the master switch ON (on rate control or other boom section control switches) and individual sections one at a time. Make sure each section appropriately changes colour to blue. With the master switch OFF, all active sections will be grey again.
4. Start pump and ensure no leaks.
5. Verify pressure on mechanical gauge matches the digital pressure display within reason. If not, adjust max. pressure sensor value as previously described.
6. Configure in PWM mode DynaJet Flex at duty cycle of 50%. Confirm each e-ChemSaver (ECS) is pulsating.

At this point the system is functioning. Further details for fine-tuning the system are available in the user settings section of this guide.

## OPERATIONS

Prior to operation, all settings and configurations must be established. Please contact a dealer or TeeJet Customer service representative with questions about system operations. TeeJet Technologies is not responsible for misuse or incorrect operation of the system. Settings are automatically saved when selected. Select functions may not be visible due to OEM settings, available equipment or sensors.

### Work screen

#### On screen indicators

**Current droplet size** – Displays the current droplet size using both the appropriate colour droplet icon and size letter code.

**PWM duty cycle** – Displays the current PWM duty cycle as a percentage.

**Active solenoid (dual nozzle mode only)** – Displays if one or both sets of solenoids are active.

**Actual pressure** – Displays the actual pressure.

**Boom status**

- ▶ Blue – turned on (single nozzle mode or dual nozzle mode single solenoid active)
- ▶ Green – turned on (dual nozzle mode both solenoids active)
- ▶ Empty – turned off

**Current Nozzle Selection** – Displays the current selected nozzle.

**Pressure gauge**

- ▶ Red diamond – actual pressure
- ▶ Colours – droplet size

**Operation modes**

- ▶ Dual nozzle mode – user can operate in nozzle mode or manual mode with the option to choose between the use of single solenoid or dual solenoid.

 **Nozzle mode (pressure)** – when the user changes the desired drop sizes choices (via the droplet size selectors checkboxes) the system will recalculate the desired pressure. It will then adjust the PWM duty cycle to attempt to attain the desired pressure in the system.

 **Manual mode (PWM)** – The user can manually adjust the PWM duty cycle to attempt to attain the desired pressure in the system.

 **Single solenoid** – one set of solenoids active

 **Dual solenoid** – both sets of solenoids active

- ▶ **Single nozzle mode** – user can operate in nozzle mode or manual mode.

 **Nozzle mode (pressure)** – when the user changes the desired drop sizes choices (via the droplet size selectors checkboxes) the system will recalculate the desired pressure. It will then adjust the PWM duty cycle to attempt to attain the desired pressure in the system.

 **Manual mode (PWM)** – The user can manually adjust the PWM duty cycle to attempt to attain the desired pressure in the system.

**Droplet size selectors**

- ▶  **Red X and greyed out** – not selected

#### Droplet size chart

When choosing a spray nozzle that produces droplet sizes in one of the eight droplet size classification categories, it is important to remember that a single nozzle can produce different droplet size classifications at different pressures. A nozzle might produce medium droplets at low pressures, while producing fine droplets as pressure is increased.

Category	Symbol	Colour code
Extremely fine	XF	Violet
Very fine	VF	Red
Fine	F	Orange
Medium	M	Yellow
Coarse	C	Blue
Very coarse	VC	Green
Extremely coarse	XC	White
Ultra coarse	UC	Black

#### Work screen – dual nozzle mode

Figure 15: Nozzle mode

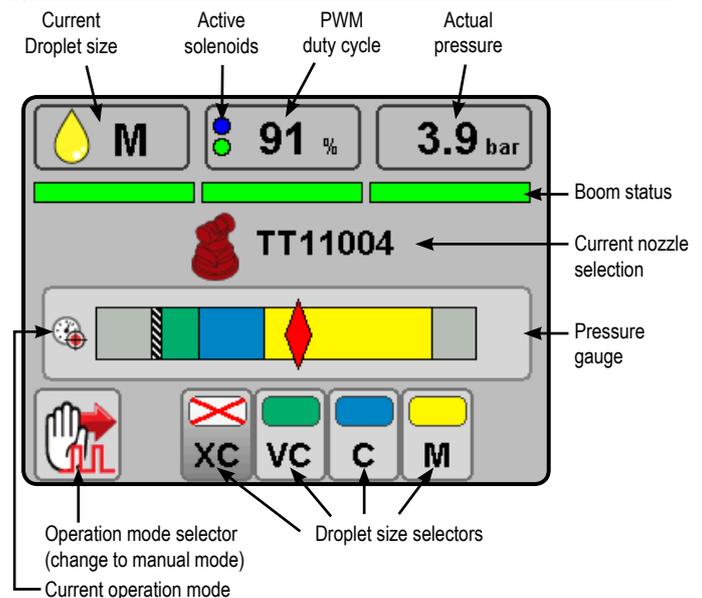


Figure 16: Manual mode, single solenoid

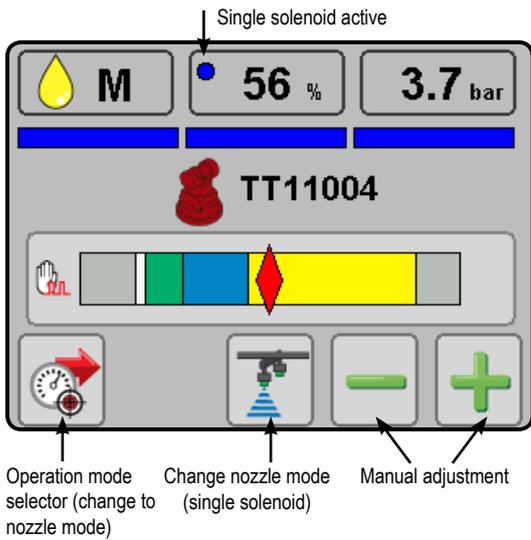


Figure 19: Manual mode

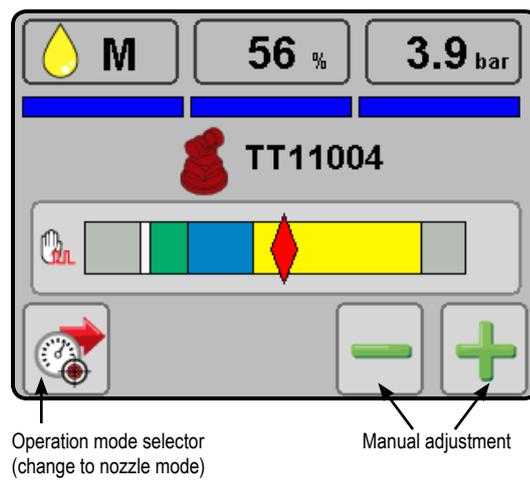
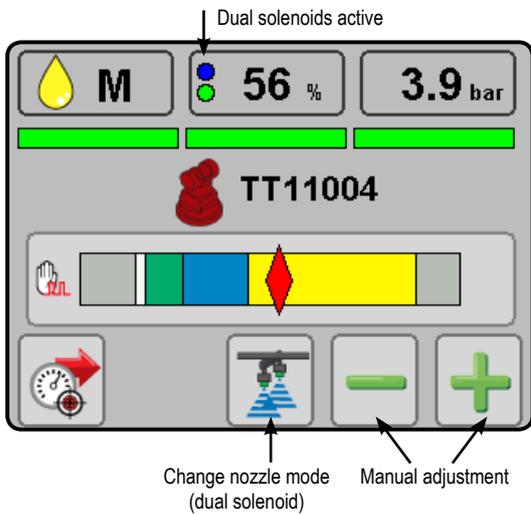
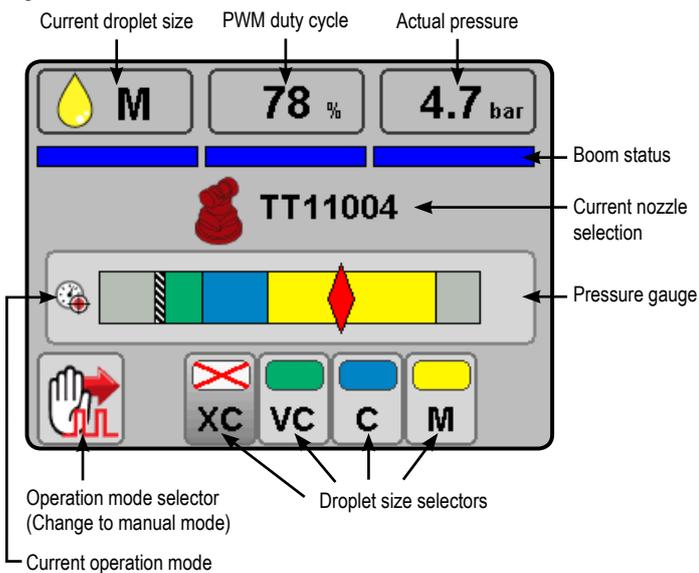


Figure 17: Manual mode, dual solenoid



## Work screen – single nozzle mode

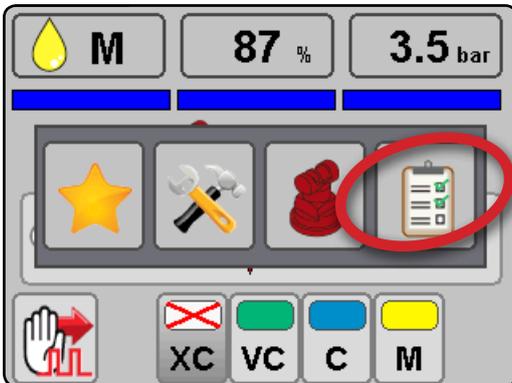
Figure 18: Nozzle mode



## Diagnostics

The DIAGNOSTICS icon accesses diagnostic information. This will display a system overview and indicate if system components are operating properly.

Figure 20: Diagnostics



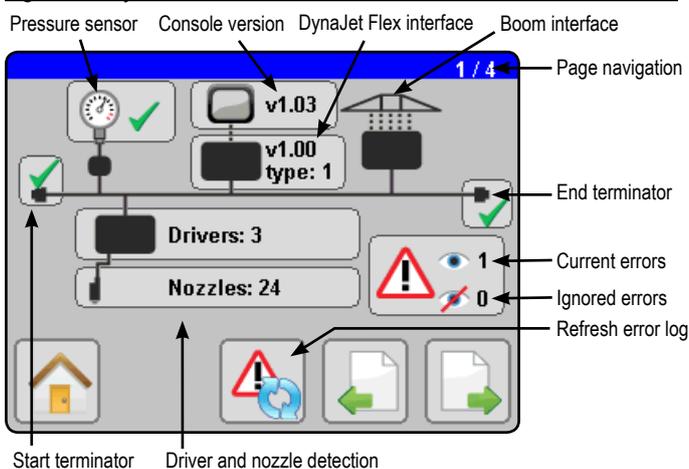
## Navigating diagnostic pages

Use the next page and previous page icons to navigate between drivers. To navigate between nozzles on the selected driver, use the next nozzle button.

### System Overview

- ▶ Page navigation – indicates current page/total pages
- ▶ Console version – displays the current software version
- ▶ Pressure sensor – displays pressure sensor status
- ▶ Boom interface – symbol indicating the boom interface
- ▶ DynaJet Flex interface – indicates the interface version and type
- ▶ Start terminator – displays status of the start terminator
- ▶ End terminator – displays status of the end terminator
- ▶ Drivers – displays the number of drivers detected
- ▶ Nozzles – displays the number of nozzles detected
- ▶ Current errors – tracks the number of current errors
- ▶ Ignored errors – tracks the number of ignored errors
- ▶ Refresh error log – clears out tallied current and ignored errors

Figure 21: System overview



## Driver and nozzle overview

▶ Driver information – displays the numeric position of the driver, current voltage, software version, and type. Drivers are numbered from left to right while facing in the machine's forward direction.

▶ Nozzle information

Nozzles are designated two ways:

- ▶ Nozzle number – numbered from left to right while facing in the machine's forward direction.
- ▶ Nozzle location – numbered from left to right while facing in the machine's forward direction by driver number and nozzle number including an A or B distinction for the solenoid position.

▶ Next nozzle – navigates through nozzle information

Figure 22: Driver and nozzle overview – dual nozzle mode

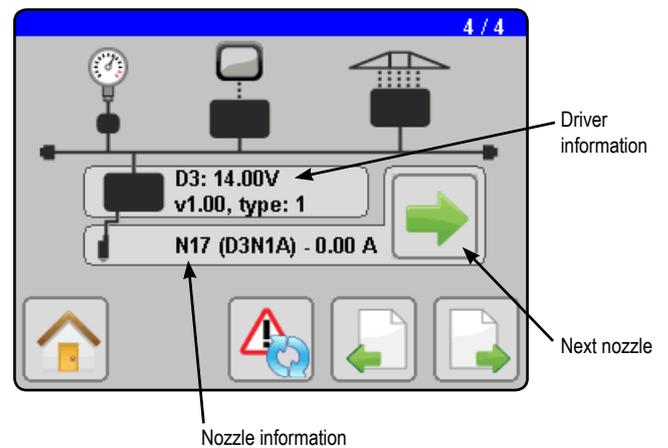
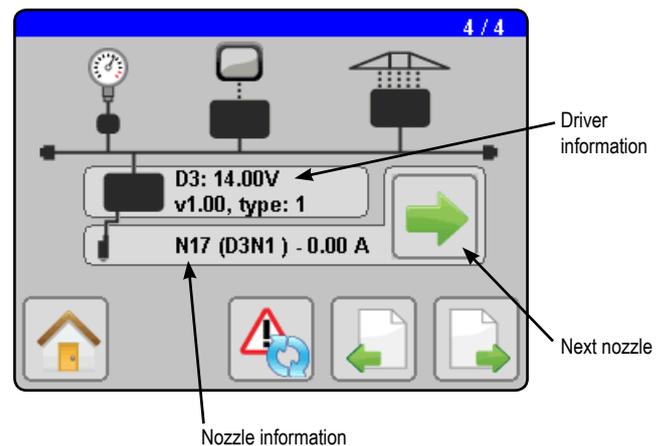


Figure 23: Driver and nozzle overview – single nozzle mode

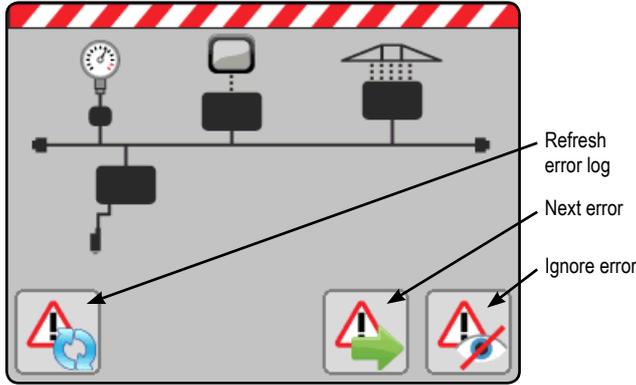


## Error warnings

If there is an active error, a warning screen will appear indicating the offending system component in red with an error warning icon.

-  Refresh error log – press this button to clear the error log
-  Next error – press this button to view the next error when multiple errors occur
-  Ignore error – press this button to disregard an error.

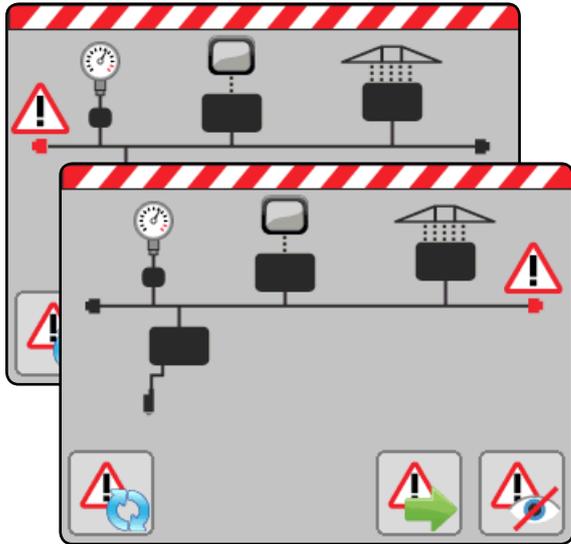
Figure 24: Error warning navigation



## Terminator errors

Terminator errors indicate that the specified terminator is not detected.

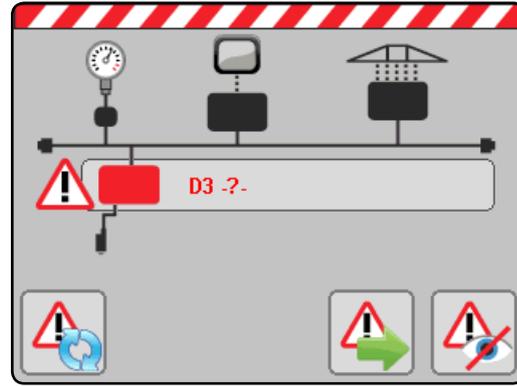
Figure 25: Terminator error



## Driver module error

Driver module errors indicate that the specified driver is not detected.

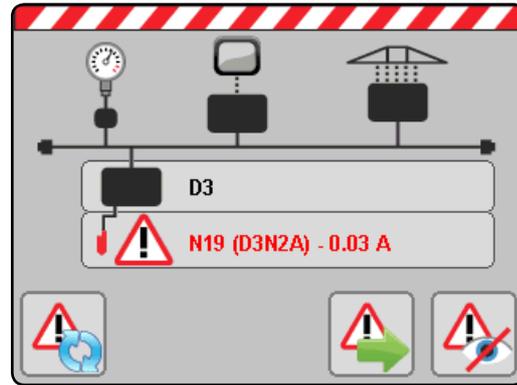
Figure 26: Driver module error



## Nozzle sensor error

Nozzle sensor errors indicate which nozzle is in error by displaying the nozzle number, nozzle location and current amps.

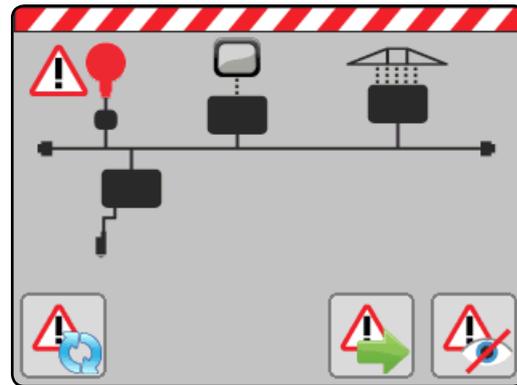
Figure 27: Nozzle sensor error



## Pressure sensor error

Indicates when a pressure sensor is not detected.

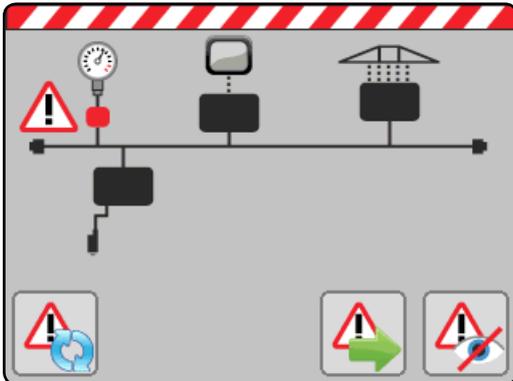
Figure 28: Pressure sensor error



## Pressure sensor interface

Systems equipped with a pressure sensor interface will indicate when the interface has lost contact with the can.

Figure 29: Pressure sensor interface error



## Nozzle mode errors

- ▶ Minimum duty cycle error – the desired pressure is not being maintained by the system.
- ▶ High pressure error – the actual pressure is above the high pressure alarm value.
- ▶ Outside droplet size error – droplet size is not being maintained by the system.

Figure 30: Nozzle mode – minimum duty cycle error

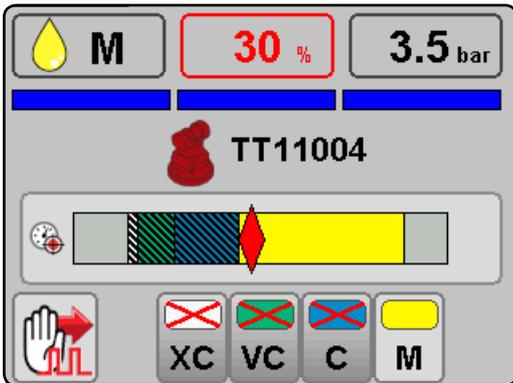


Figure 31: Nozzle mode – high pressure error

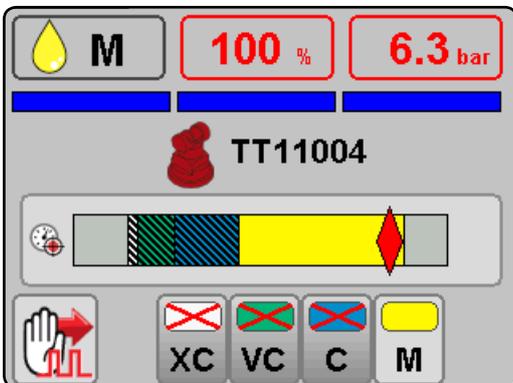
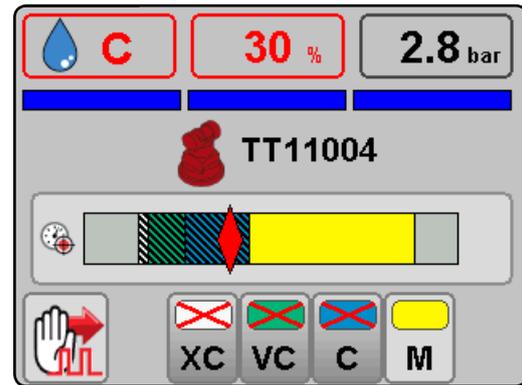


Figure 32: Nozzle mode – outside droplet size error



## Manual mode errors

- ▶ High pressure error – the actual pressure is above the high pressure alarm value.
- ▶ Low pressure error – the actual pressure is below the recommended nozzle pressure range.

Figure 33: Manual mode – high pressure error

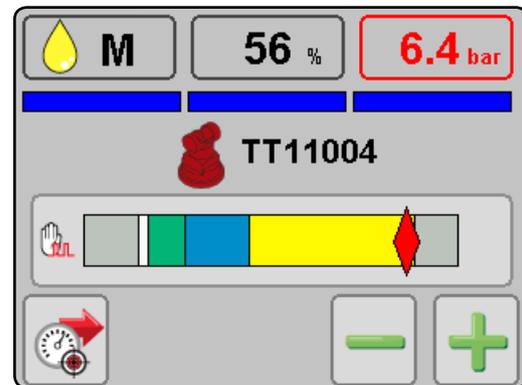
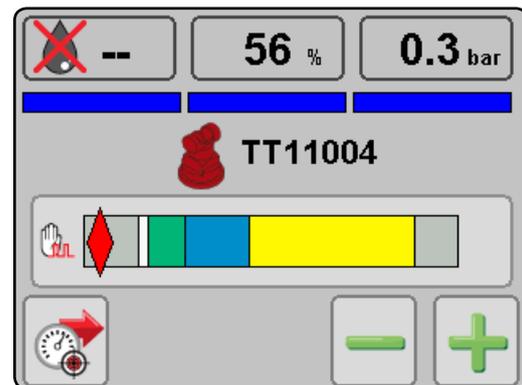


Figure 34: Manual mode – low pressure error



## USER SETTINGS

 If there are questions concerning the setup of the DynaJet Flex, please contact your dealer or TeeJet customer service representative for clarification before operation. TeeJet Technologies is not responsible for misuse or incorrect operation of the system.

Setup is used to configure units, display brightness, key beep, number of sections, boom section on/off beep, maximum pressure sensor value, minimum duty cycle, control hold delay, fine gain, coarse gain, and coarse gain on/off.

### Display brightness

Sets the brightness level of the display. Range is 5% to 100% in 5% increments.



### Units

Sets the units to us (psi) or metric (bar).



### Key beep

Enable/disable all beeping from console.



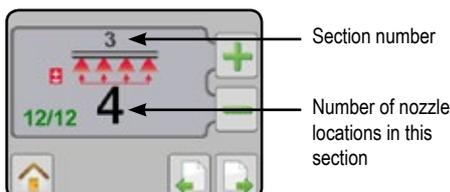
### Number of sections

Set the number of boom sections. Range is 1 to 15.



### Number of nozzles (per section)

Set the number of nozzle locations for each boom section. Range is 1 to 120.



### Boom section on/off beep

Enable/disable beep when a boom section is turned on or off.



### Pressure sensor max.

Sets the value from the pressure sensor description. Either 10 bar or 25 bar.



### Minimum duty cycle

Sets the minimum duty cycle to which the DynaJet Flex will control. Default is 30%, minimum is 20%.

Higher values reduce the overall control range of the system.



### Control hold delay

When any boom switch changes state, DynaJet Flex will not make control adjustments for the specified time period. Range is 0.0 to 10.0 seconds. Default is 1.0 second.



## Coarse gain

This is the more aggressive gain setting and will have the largest impact on the stability and function of the DynaJet Flex system. Coarse gain makes major adjustments to duty cycle to attempt to bring actual pressure back to the target. A coarse gain setting that is too high will result in pressure oscillation. Range is 1 to 20. Default is 4.



## Fine gain

Allows the control system to make minor adjustments when close to the target, with the goal of stable pressures and minimal overshoot of target. Range is 1 to 20. Default is 6.



## DYNAJET FLEX® NOZZLE SELECTION

Selection of the proper spray nozzle for use with the DynaJet Flex system is much like selecting the spray nozzle for a traditional spraying operation. Along with the extra application flexibility, DynaJet Flex brings a few other nozzle-related considerations that will be summarized below.

### 1. Duty cycle

- a. DynaJet Flex controls nozzle flow rate by varying the portion of time that each nozzle is 'on' vs. 'off'. The on time is referred to as duty cycle. The range of duty cycle available is typically 30% to 100%, meaning that the nozzles on the machine will have the approximately 30% to 100% of their rated flow capacity.
- b. With the DynaJet Flex system:
  - Standard mode  $\text{spray nozzle flow capacity} = \text{spray nozzle size} \times \text{duty cycle}$
  - Dual nozzle mode  $\text{spray nozzle flow capacity} = \text{spray nozzle size} \times \text{duty cycle} \times 2$
- c. By varying the duty cycle, the DynaJet Flex is essentially varying spray nozzle capacity on the fly. When more pressure is required, the nozzle capacity (duty cycle) is reduced. When higher nozzle capacity is required, the duty cycle is increased.
- d. Although the operator has a much more flexible and forgiving application system with DynaJet Flex, care should be taken to select spray nozzles that give the best possible results.
- e. When selecting a spray nozzle, review the DynaJet Flex nozzle selection charts and select a spray nozzle capacity that produces the target application rate at a duty cycle of about 70% when running at expected travel speeds. In other words, choose nozzle capacity and desired pressure/droplet size closer to the high end of the speed (or rate) range than to the lower end. This will provide plenty of adjustment range for DynaJet Flex to reduce duty cycle when travel speed slows, while also providing additional capacity if travel speed increases above the planned speed.
  - The default setting for minimum duty cycle is 30%. This means the system will not adjust the duty cycle below 30% 'on'. While this setting can be set as low as 20% by the operator, the higher default value provides a more uniform application at lower speeds.

### 2. Spray nozzle selection

- a. The DynaJet Flex system is not compatible with all spray nozzles. Approved nozzle families are XR TeeJet, DG TeeJet, Turbo TwinJet, Turbo TeeJet, and Air Induction Turbo TwinJet 60.
- b. Different nozzle styles have different droplet size characteristics across the range of operating pressures. The spray nozzle style should be selected based on the desired droplet size at the pressures expected to be in use for your application.
- c. Always use spray nozzles with 110° (or wider) spray pattern. These spray nozzle part numbers will typically include the 110 in their name – for example TT11006VP or XR11006-VS. 80° spray nozzles are not recommended with DynaJet Flex.

### 3. Spray Height

- a. In order to achieve the best possible spray coverage, make sure to keep spray height at or above 20" from the nozzle to the target.

## Nozzle selection example

These columns show flow rates at various pressures. The Delta P represents pressure loss through the DynaJet Flex solenoid valve, and the resulting nozzle PSI and flow show actual values at the spray nozzle.

These columns show droplet sizes for different styles of spray nozzle at given pressures. Use these columns to choose the best nozzle style for your application.

Just like a normal nozzle chart, these columns show rates available at given speeds. The only difference is the range of values that corresponds to the range of flows available with DynaJet Flex.

Tip No.	Gauge Pressure PSI	Rated GPM	Δ P	Tip		Min Duty Cycle 30%		Tip Spacing 20 inches			
						TT	TTJ60	6 mph	8 mph	10 mph	12 mph
				PSI	Flow			GPA	GPA	GPA	GPA
11006 TT TJ60 TTJ60 XR XRC (50)	20	0.42	3	17	0.39	XC	-	5.8 to 19.3	4.3 to 14.5	3.5 to 11.6	2.9 to 9.7
	30	0.52	4	26	0.48	VC	VC	7.1 to 24	5.3 to 17.8	4.3 to 14.3	3.6 to 11.9
	40	0.60	5	35	0.56	VC	C	8.3 to 28	6.2 to 21	5.0 to 16.6	4.2 to 13.9
	50	0.67	6	44	0.63	VC	C	9.4 to 31	7.0 to 23	5.6 to 18.7	4.7 to 15.6
	60	0.73	7	53	0.69	C	C	10.2 to 34	7.7 to 26	6.1 to 20	5.1 to 17.1
	70	0.79	8	62	0.74	C	C	11.0 to 37	8.2 to 27	6.6 to 22	5.5 to 18.3
	80	0.85	9	71	0.80	C	C	11.9 to 40	8.9 to 30	7.1 to 24	5.9 to 19.8
	90	0.90	10	80	0.85	M	C	12.6 to 42	9.5 to 32	7.6 to 25	6.3 to 21

If the operator wants to apply 15 GPA at 10 MPH, he would look in the 10 MPH column, and find the row that shows 15 GPA with room above and below to compensate for higher and lower speeds that may be experienced in the field. In this case a TT11006 at 40-50 PSI will work very well.

Tip No.	Gauge Pressure PSI	Rated GPM	Δ P	Tip		Min Duty Cycle 30%		Tip Spacing 20 inches			
						TT	TTJ60	6 mph	8 mph	10 mph	12 mph
				PSI	Flow			GPA	GPA	GPA	GPA
11006 TT TJ60 TTJ60 XR XRC (50)	20	0.42	3	17	0.39	XC	-	5.8 to 19.3	4.3 to 14.5	3.5 to 11.6	2.9 to 9.7
	30	0.52	4	26	0.48	VC	VC	7.1 to 24	5.3 to 17.8	4.3 to 14.3	3.6 to 11.9
	40	0.60	5	35	0.56	VC	C	8.3 to 28	6.2 to 21	5.0 to 16.6	4.2 to 13.9
	50	0.67	6	44	0.63	VC	C	9.4 to 31	7.0 to 23	5.6 to 18.7	4.7 to 15.6
	60	0.73	7	53	0.69	C	C	10.2 to 34	7.7 to 26	6.1 to 20	5.1 to 17.1
	70	0.79	8	62	0.74	C	C	11.0 to 37	8.2 to 27	6.6 to 22	5.5 to 18.3
	80	0.85	9	71	0.80	C	C	11.9 to 40	8.9 to 30	7.1 to 24	5.9 to 19.8
	90	0.90	10	80	0.85	M	C	12.6 to 42	9.5 to 32	7.6 to 25	6.3 to 21

The next consideration is droplet size. The chart shows that a Turbo TeeJet (TT) nozzle will give Very Coarse (VC) droplets in this pressure range, and a Turbo TwinJet (TTJ60) will give Coarse (C) droplets. The benefit of the TT is that the operator could select droplets from VC to M all at the same rate and speed.

Tip No.	Gauge Pressure PSI	Rated GPM	Δ P	Tip		Min Duty Cycle 30%		Tip Spacing 20 inches			
						TT	TTJ60	6 mph	8 mph	10 mph	12 mph
				PSI	Flow			GPA	GPA	GPA	GPA
11006 TT TJ60 TTJ60 XR XRC (50)	20	0.42	3	17	0.39	XC	-	5.8 to 19.3	4.3 to 14.5	3.5 to 11.6	2.9 to 9.7
	30	0.52	4	26	0.48	VC	VC	7.1 to 24	5.3 to 17.8	4.3 to 14.3	3.6 to 11.9
	40	0.60	5	35	0.56	VC	C	8.3 to 28	6.2 to 21	5.0 to 16.6	4.2 to 13.9
	50	0.67	6	44	0.63	VC	C	9.4 to 31	7.0 to 23	5.6 to 18.7	4.7 to 15.6
	60	0.73	7	53	0.69	C	C	10.2 to 34	7.7 to 26	6.1 to 20	5.1 to 17.1
	70	0.79	8	62	0.74	C	C	11.0 to 37	8.2 to 27	6.6 to 22	5.5 to 18.3
	80	0.85	9	71	0.80	C	C	11.9 to 40	8.9 to 30	7.1 to 24	5.9 to 19.8
	90	0.90	10	80	0.85	M	C	12.6 to 42	9.5 to 32	7.6 to 25	6.3 to 21

### Tuning the control console valve

The following procedure will help determine the rate controller valve gain that is the most aggressive value that will work over all pressure ranges with the DynaJet Flex in manual mode set to different duty cycles. The most aggressive value will be found by increasing the valve gains or other controller specific settings until system oscillates and then decrease those setting to make sure the system is stable at that value.

The tests will confirm that pulsing of flow through the solenoids doesn't affect rate controller stability even when duty cycle is below 50%.

Ensure product pump is providing flow greater than the maximum demand of the system.

Adjust target application rate or machine speed to deliver minimum and maximum operating pressures for the nozzle in use under the following conditions (rate control must be operating in automatic mode for these tests):

1. DynaJet Flex duty cycle set to 100%.
  - i. Set rate controller gains/values with operating pressure at minimum. Controller gain value at minimum pressure: \_\_\_\_\_
  - ii. Set rate controller gains/values with operating pressure at maximum. Controller gain value at maximum pressure: \_\_\_\_\_
2. DynaJet Flex duty cycle set to 50%.
  - i. Set rate controller gains/values with operating pressure at minimum. Controller gain value at minimum pressure: \_\_\_\_\_
  - ii. Set rate controller gains/values with operating pressure at maximum. Controller gain value at maximum pressure: \_\_\_\_\_
3. DynaJet Flex duty cycle set to "Minimum Duty Cycle" value (default is 30%)
  - i. Set rate controller gains/values with operating pressure at minimum. Controller gain value at minimum pressure: \_\_\_\_\_
  - ii. Set rate controller gains/values with operating pressure at maximum. Controller gain value at maximum pressure: \_\_\_\_\_
4. Set rate controller valve gain to the highest value that will work with all previous scenarios. This will be the lowest gain value found in the previous 6 tests. This value should not need to be changed again.
5. If the system does not control acceptably with this gain value at all manual duty cycle settings, then something is wrong with the system that needs to be resolved before trying to tune the DynaJet Flex System.

### Tuning the DynaJet Flex system

The following steps will use coarse gain and fine gain to tune the DynaJet Flex system. Coarse gain will be increased until the system is oscillating across the target pressure. Once that is occurring then fine gain will be increased to smooth/eliminate the oscillation. A coarse gain too low will cause the system to be stable but slow to get on target. A coarse gain too high will cause the system to overshoot target when a speed change happens. A fine gain too low will allow the system to continue to oscillate. A fine gain too high will cause the system to oscillate extremely rapidly and cause a thumping in the system. The lower the target pressure, the higher the fine gain can be set, so the tuning needs to be done at highest pressure/ smallest droplet size that the machine will typically be operating. Speed changes will be required for the best tuning possible. Simulated speed changes are preferred, but driving the machine is ok. Steady speeds are required.

1. Set console to nozzle mode and choose the nozzle being used.
2. Set coarse gain to 2 and fine gain to 2.
  - 2.1 Disable jump point by setting value to 0.
  - 2.2 Choose the highest pressure/smallest droplet size that will typically be used
  - 2.3 Run the system and view the bar on the DynaJet Flex when changing speed. Increase the coarse gain until system is oscillating across target pressure. Most machines operate with a setting between 4 to 6 for coarse gain.
3. Once coarse gain is determined, then using the same speed changes as before begin increasing fine gain until the oscillations stop and the target rate and target pressure are stable. Most machines operate with a setting between 8 to 12 for fine gain.
4. After coarse gain and fine gain have been set, then select a lower pressure/larger droplet size and run the machine using the same speed changes. Typically, the settings will not have to be changed for the lower pressure applications.
5. If more than one nozzle size is going to be used on the machine, then run a test with the same values for coarse gain and fine gain for the other nozzles. Always check at the highest pressure/smallest droplet size that will typically be used.

## 55295 E-CHEMSAVER® MAINTENANCE INSTRUCTIONS

The 55295 e-ChemSaver is a solenoid-actuated shutoff compatible with a wide range of TeeJet nozzle bodies equipped with a diaphragm check valve. It can be used for end-of-boom nozzles as well as individual nozzle shutoff and PWM controls.

The valve is normally closed and opens when the solenoid is energized. The 55295 has a 2-Pin MetriPack connector molded into the body for a clean, weather-tight electrical connection.

### General disassembly and reassembly

*NOTE: O-rings (8, 9, 10) should be handled with care as they can be damaged/deformed*

1. Loosen and remove the Nylon Nut (4) and Stainless Steel Washer (5)
2. Separate the Coil Assembly (1) from the rest of the Tube/Plunger Assembly (2, 3, 6-11)
3. Remove the Locking Ring (11)
4. Using pliers to grip the Stainless Steel Interface Cap (7), loosen the Tube Sub-Assembly (2) using a 9/16" (14 mm) or adjustable wrench. Note a low-profile 9/16" wrench is available from TeeJet using part number 97-00067.

All repairable parts should be accessible at this point. The Plunger Sub-Assembly (3), Stainless Steel Spring (6), and O-rings (8, 9, 10) can be replaced without further disassembly

5. During reassembly, place the Plunger Sub-Assembly (3) and Stainless Steel Spring (6) in the Tube Sub-Assembly (2)

*NOTE: The Plunger Sub-Assembly (3) should be oriented with the black insert facing outward (visible) when placed in the Tube Sub-Assembly (2)*

6. While compressing the Spring (6), thread the Tube/Plunger Assembly (2, 3, 6-11) to the Stainless Steel Interface Cap (7) and tighten using a wrench and pliers

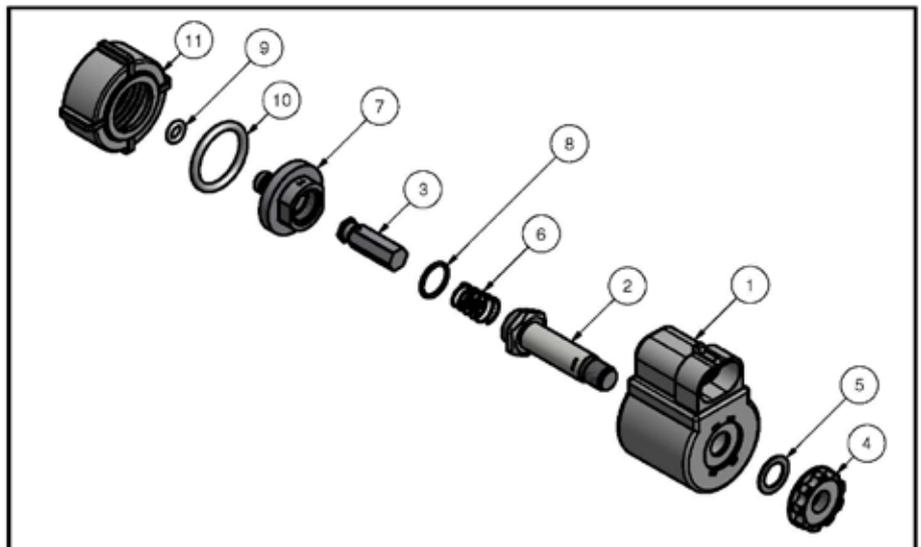
*Optional: Apply 1 drop of Loctite Blue 243 to the threads of the Interface Cap (7) and Tube Sub-Assembly (2)*

*Torque Specifications: tighten Interface Cap (7) and Tube Sub-Assembly (2) to 12 in-lbs (1.36 N-m)*

7. Return the Locking Ring (11) to its original position and slide the Tube/Plunger Assembly (2, 3, 6-11) through the Coil Assembly (1)

*NOTE: The Coil Assembly (1) should be oriented with the MetriPack connectors facing away from the Interface Cap (7)*

8. Place the Stainless Steel Washer (5) above the Coil Assembly (1) and tighten the Nylon Nut (4) to the Tube/Plunger Assembly (2, 3, 6-11)



ITEM	PART NUMBER	DESCRIPTION
1	CP55296-12	12 VOLT COIL ASSEMBLY (55295-1-12, 55295-2-12, & 55295-4-12)
1A	CP55296-24	24 VOLT COIL ASSEMBLY (55295-1-24, 55295-2-24, & 55295-4-24)
2	N/A	TUBE SUB ASSEMBLY
3	N/A	PLUNGER SUB-ASSEMBLY
4	N/A	NUT, NYLON-BLACK
5	N/A	WASHER, 303 STAINLESS STEEL
6	N/A	SPRING, 302 STAINLESS STEEL
7	N/A	INTERFACE CAP, 303 STAINLESS STEEL (55295-1-12 & 55295-4-12)
7A	N/A	INTERFACE CAP, 303 STAINLESS STEEL (55295-2-12)
8	N/A	O-RING, VITON
9	N/A	O-RING, VITON (55295-1-12 & 55295-4-12)
9A	N/A	O-RING, VITON (55295-2-12)
10	N/A	O-RING, VITON (55295-1-12 & 55295-2-12)
10A	N/A	GASKET, VITON (55295-4-12)
11	N/A	LOCKING RING, NYLON-BLACK
AB55295-1-KIT, SPARE PARTS KIT (INCLUDES 3, 6, 8, 9, 10)		
AB55295-2-KIT, SPARE PARTS KIT (INCLUDES 3, 6, 8, 9A, 10)		
AB55295-4-KIT, SPARE PARTS KIT (INCLUDES 3, 6, 8, 9, 10A)		

#### DESCRIPTION:

55295-1-12, 55295-2-12, 55295-4-12,  
55295-1-24, 55295-2-24, 55295-4-24  
e-CHEMSAVER® SOLENOID OPERATED  
ELECTRIC SHUT-OFF VALVE



**Spraying Systems Co.**  
Spray Nozzles and Accessories  
P.O. Box 7900 - Wheaton, IL 60189-7900

REVISION NO.

REFERENCE:

PARTS LIST  
**PL55295**

SHEET:

DWG SIZE:

A



**SPEED RANGE AVAILABLE AT GIVEN NOZZLE SIZE AND APPLICATION RATE**

Figure 36: Metric

Tip No. (Mesh Size)	Gauge Pressure (Bar)	Rated L/Min	ΔP	Tip		Minimum Duty Cycle:						Tip Spacing 60 cm									
				Pressure (Bar)	Flow (L/Min)	XR/XRC	TT	T, J60	TT, J60	AIT, J60	50 l/ha	76 l/ha	100 l/ha	125 l/ha	160 l/ha	200 l/ha	226 l/ha	260 l/ha	300 l/ha		
11003 XR XRC TT T J60 TT J60 AIT J60 (50)	1.5	0.83	0.1	1.4	0.81	M	VC	-	-	-	-	-	5.8 to 19	3.9 to 13	2.9 to 9.7	2.3 to 7.8	1.9 to 6.5	1.5 to 4.9	1.3 to 4.3	1.2 to 3.9	1.0 to 3.2
	2	0.96	0.1	1.9	0.94	F	VC	-	C	-	-	-	6.8 to 23	4.5 to 15	3.4 to 11	2.7 to 9.0	2.3 to 7.5	2.0 to 5.6	1.9 to 5.0	1.4 to 4.5	1.1 to 3.8
	3	1.10	0.1	2.9	1.16	F	C	F	C	-	-	-	8.4 to 28	5.6 to 19	4.2 to 14	3.3 to 11	2.8 to 9.3	2.4 to 7.0	2.1 to 5.6	1.7 to 5.0	1.4 to 4.6
	4	1.36	0.1	3.9	1.34	F	M	F	M	-	-	-	9.6 to 32	6.4 to 21	4.8 to 16	3.2 to 10	3.2 to 10	2.4 to 8.0	2.1 to 7.1	1.9 to 6.4	1.6 to 5.4
	5	1.52	0.2	4.8	1.49	-	M	-	-	-	-	-	11 to 36	7.2 to 24	5.0 to 18	4.3 to 14	3.6 to 12	2.7 to 8.9	2.4 to 7.9	2.1 to 7.2	1.8 to 6.0
	6	1.67	0.2	5.8	1.64	-	F	-	-	-	-	-	12 to 39	7.9 to 26	5.9 to 20	4.7 to 16	3.9 to 13	3.0 to 9.8	2.6 to 8.7	2.4 to 7.9	2.0 to 6.6
11004 XR XRC TT T J60 TT J60 AIT J60 (50)	1.5	1.12	0.1	1.4	1.08	M	VC	-	-	-	-	-	7.8 to 26	5.2 to 17	3.9 to 13	3.1 to 10	2.6 to 8.6	1.9 to 6.5	1.7 to 5.8	1.6 to 5.2	1.3 to 4.3
	2	1.29	0.1	1.9	1.25	M	C	-	C	-	-	-	9.0 to 30	6.0 to 20	4.5 to 15	3.6 to 12	3.0 to 10	2.3 to 7.5	2.0 to 6.7	1.8 to 6.0	1.5 to 5.0
	3	1.58	0.2	2.8	1.53	F	M	F	C	-	-	-	11 to 37	7.3 to 24	5.5 to 18	4.4 to 15	3.7 to 12	2.9 to 9.2	2.4 to 8.2	2.2 to 7.3	1.8 to 6.1
	4	1.82	0.2	3.8	1.77	F	M	F	M	-	-	-	13 to 42	8.5 to 28	6.4 to 21	5.1 to 17	4.2 to 14	3.2 to 11	2.8 to 9.4	2.5 to 8.5	2.1 to 7.1
	5	2.04	0.3	4.7	1.98	-	M	-	-	-	-	-	14 to 48	9.5 to 32	7.1 to 24	5.7 to 19	4.8 to 16	3.6 to 12	3.2 to 11	2.9 to 9.5	2.4 to 7.9
	6	2.23	0.3	5.7	2.17	-	F	-	-	-	-	-	16 to 52	10 to 35	7.8 to 26	6.2 to 21	5.2 to 17	3.9 to 13	3.5 to 12	3.1 to 10	2.6 to 8.7
11005 XR XRC TT T J60 TT J60 AIT J60 (50)	1.5	1.39	0.2	1.3	1.32	M	VC	-	-	-	-	-	9.5 to 32	6.3 to 21	4.8 to 16	3.8 to 13	3.2 to 11	2.4 to 7.9	2.1 to 7.0	1.9 to 6.3	1.6 to 5.3
	2	1.61	0.2	1.8	1.53	M	C	-	C	-	-	-	11 to 37	7.3 to 24	5.5 to 18	4.4 to 15	3.7 to 12	2.8 to 9.2	2.4 to 8.2	2.2 to 7.3	1.8 to 6.1
	3	1.97	0.3	2.7	1.88	M	C	M	C	-	-	-	14 to 45	9.0 to 30	6.8 to 23	5.4 to 18	4.5 to 15	3.4 to 11	3.0 to 10	2.7 to 9.0	2.3 to 7.5
	4	2.27	0.3	3.7	2.17	F	M	F	C	-	-	-	16 to 52	10 to 35	7.8 to 26	6.2 to 17	5.2 to 17	3.9 to 13	3.5 to 12	3.1 to 10	2.6 to 8.7
	5	2.54	0.4	4.6	2.43	-	M	-	-	-	-	-	17 to 58	12 to 39	8.7 to 29	7.0 to 23	5.8 to 19	4.1 to 15	3.9 to 13	3.5 to 12	2.9 to 9.7
	6	2.79	0.5	5.5	2.67	-	F	-	-	-	-	-	19 to 64	13 to 43	9.6 to 32	7.7 to 26	6.4 to 21	4.8 to 16	4.3 to 14	3.8 to 13	3.2 to 11
11006 XR XRC TT T J60 TT J60 AIT J60 (50)	1.5	1.68	0.2	1.3	1.56	M	VC	-	-	-	-	-	11 to 37	7.5 to 25	5.6 to 19	4.5 to 15	3.7 to 12	2.8 to 9.4	2.5 to 8.3	2.2 to 7.5	1.9 to 6.2
	2	1.94	0.3	1.7	1.81	M	VC	-	C	-	-	-	13 to 43	8.7 to 29	6.5 to 22	5.2 to 17	4.3 to 14	3.3 to 11	2.9 to 9.7	2.6 to 8.7	2.2 to 7.2
	3	2.37	0.4	2.6	2.22	M	C	M	C	-	-	-	16 to 53	11 to 36	8.0 to 27	6.4 to 21	5.3 to 18	4.0 to 13	3.6 to 12	3.2 to 11	2.7 to 8.9
	4	2.74	0.5	3.5	2.57	M	M	F	C	-	-	-	19 to 62	12 to 41	9.3 to 31	7.4 to 25	6.2 to 21	4.6 to 15	4.1 to 14	3.7 to 12	3.1 to 10
	5	3.06	0.6	4.4	2.87	F	M	F	M	-	-	-	21 to 69	14 to 46	10 to 34	8.3 to 28	6.9 to 23	5.2 to 17	4.6 to 15	4.1 to 14	3.4 to 11
	6	3.35	0.7	5.3	3.15	-	F	-	-	-	-	-	23 to 76	15 to 50	11 to 38	9.1 to 30	7.6 to 25	5.7 to 19	4.5 to 15	3.8 to 13	
11008 XR XRC TT T J60 TT J60 AIT J60 (50)	1.5	2.23	0.3	1.2	1.96	C	XC	-	-	-	-	-	14 to 47	9.4 to 31	7.1 to 24	5.6 to 19	4.7 to 16	3.5 to 12	3.1 to 10	2.8 to 9.4	2.4 to 7.8
	2	2.58	0.4	1.6	2.28	C	VC	-	VC	-	-	-	16 to 55	11 to 36	8.2 to 27	6.6 to 22	5.5 to 18	4.1 to 14	3.6 to 12	3.3 to 11	2.7 to 9.1
	3	3.16	0.5	2.4	2.81	M	M	M	VC	-	-	-	20 to 67	13 to 45	10 to 34	8.1 to 27	6.7 to 22	5.1 to 17	4.5 to 15	4.0 to 13	3.4 to 11
	4	3.65	0.8	3.2	3.25	M	M	M	C	-	-	-	23 to 78	16 to 52	12 to 39	9.4 to 31	7.8 to 26	5.9 to 20	5.2 to 17	4.7 to 16	3.9 to 13
	5	4.08	1.0	4.0	3.64	M	M	M	C	XC	-	-	26 to 87	17 to 58	13 to 44	10 to 35	8.7 to 29	6.6 to 22	5.0 to 17	4.4 to 15	
	6	4.47	1.2	4.8	3.99	-	F	-	-	-	-	-	29 to 96	19 to 64	14 to 48	11 to 38	9.6 to 32	7.2 to 24	6.4 to 21	5.7 to 19	4.8 to 16
11010 T J60 TT J60 AIT J60 (50)	1.5	2.70	0.5	1.0	2.28	VC	UC	-	-	-	-	-	16 to 55	11 to 36	8.2 to 27	6.6 to 22	5.5 to 18	4.1 to 14	3.6 to 12	3.3 to 11	2.7 to 9.1
	2	3.23	0.7	1.3	2.64	C	XC	-	-	-	-	-	19 to 63	13 to 42	9.5 to 32	7.6 to 25	6.3 to 21	4.8 to 16	4.2 to 14	3.8 to 13	3.2 to 11
	3	3.95	1.0	2.0	3.25	M	VC	M	VC	-	-	-	23 to 78	16 to 52	12 to 39	9.4 to 31	7.8 to 26	5.9 to 20	5.2 to 17	4.7 to 16	3.9 to 13
	4	4.56	1.3	2.7	3.76	C	VC	M	VC	UC	-	-	27 to 90	18 to 60	14 to 45	11 to 36	9.0 to 30	6.8 to 23	6.0 to 20	5.4 to 18	4.5 to 15
	5	5.10	1.6	3.4	4.21	M	VC	M	VC	XC	-	-	30 to 101	20 to 67	15 to 51	12 to 40	10 to 34	7.6 to 25	6.7 to 22	6.1 to 20	5.1 to 17
	6	5.59	1.9	4.1	4.61	M	C	M	C	XC	-	-	33 to 111	22 to 74	17 to 55	13 to 44	11 to 37	8.3 to 28	7.4 to 25	6.6 to 22	5.5 to 18

Figure 37: Dual Nozzle Mode

Tip No. (Mesh Size)	Gauge Pressure (Bar)	Rated L/min	ΔP	Tip		Minimum Duty Cycle: 30%						Tip Spacing 50 cm									
				Flow (L/min)	Pressure (Bar)	XR/XRC	TI	1.80	1.1.00	All.1.00	60 l/ha	100 l/ha	150 l/ha	200 l/ha	250 l/ha	300 l/ha	350 l/ha	400 l/ha	500 l/ha		
11003 XR/XRC TT T.1.00 TT.1.00 All.1.60 (50)	1.5	0.03	0.1	1.4	0.01	M	VC	-	-	-	5.0 to 39	2.9 to 19	1.9 to 13	1.5 to 9.7	1.2 to 7.0	1.0 to 6.5	0.8 to 5.6	0.7 to 4.9	0.6 to 3.9		
	2	0.06	0.1	1.9	0.04	F	VC	-	-	-	8.1 to 45	3.4 to 23	2.3 to 15	1.7 to 11	1.4 to 9.0	1.1 to 7.5	0.8 to 5.6	0.7 to 4.5	0.6 to 3.9		
	3	1.18	0.1	2.9	1.16	F	C	F	C	C	8.1 to 56	4.2 to 28	2.8 to 19	2.1 to 14	1.7 to 11	1.4 to 9.3	1.2 to 8.0	1.0 to 7.0	0.8 to 5.6		
	4	1.36	0.1	3.9	1.34	F	M	F	M	M	9.6 to 64	4.8 to 32	3.2 to 21	2.4 to 16	1.9 to 13	1.6 to 11	1.4 to 9.2	1.2 to 8.0	1.0 to 6.4		
	5	1.52	0.2	4.8	1.49	M	M	-	-	-	11.0 to 72	5.4 to 36	3.6 to 24	2.7 to 18	2.1 to 14	1.8 to 12	1.5 to 10	1.3 to 8.9	1.1 to 7.2	0.9 to 6.4	
	6	1.67	0.2	5.0	1.64	-	F	-	-	-	12.0 to 79	5.9 to 39	3.9 to 26	3.0 to 20	2.4 to 16	2.0 to 13	1.7 to 11	1.5 to 9.0	1.2 to 7.9	1.0 to 6.4	
11004 XR/XRC TT T.1.00 TT.1.00 All.1.60 (50)	1.5	1.12	0.1	1.4	1.08	M	VC	-	-	-	7.8 to 52	3.9 to 26	2.6 to 17	1.9 to 13	1.6 to 10	1.3 to 8.6	1.1 to 7.4	0.8 to 5.2	0.7 to 4.5		
	2	1.29	0.1	1.9	1.25	M	C	-	-	-	9.0 to 60	4.5 to 30	3.0 to 20	2.3 to 15	1.8 to 12	1.5 to 10	1.3 to 8.6	0.9 to 6.0	0.8 to 5.2		
	3	1.58	0.2	2.8	1.53	F	M	F	C	C	11.0 to 73	5.5 to 37	3.7 to 24	2.8 to 18	2.2 to 15	1.8 to 12	1.6 to 10	1.4 to 9.2	1.1 to 7.3		
	4	1.82	0.2	3.8	1.77	F	M	F	M	M	13.0 to 85	6.4 to 42	4.2 to 28	3.2 to 21	2.5 to 17	2.1 to 14	1.8 to 12	1.6 to 11	1.3 to 8.5		
	5	2.04	0.3	4.7	1.96	-	M	-	-	-	14.0 to 95	7.1 to 48	4.8 to 32	3.6 to 24	2.9 to 19	2.4 to 16	2.0 to 14	1.8 to 12	1.4 to 9.5		
	6	2.23	0.3	5.7	2.17	-	F	-	-	-	16.0 to 104	7.9 to 52	5.2 to 35	3.9 to 26	3.1 to 21	2.6 to 17	2.2 to 15	2.0 to 14	1.4 to 9.5		
11005 XR/XRC TT T.1.00 TT.1.00 All.1.60 (50)	1.5	1.39	0.2	1.3	1.32	M	VC	-	-	-	9.5 to 63	4.8 to 32	3.2 to 21	2.4 to 16	1.9 to 13	1.6 to 11	1.4 to 9.4	1.2 to 7.9	1.0 to 6.3		
	2	1.61	0.2	1.8	1.53	M	C	-	-	-	11.0 to 73	5.5 to 37	3.7 to 24	2.8 to 18	2.2 to 15	1.8 to 12	1.6 to 10	1.4 to 9.2	1.1 to 7.3		
	3	1.97	0.3	2.7	1.88	M	C	M	C	C	14.0 to 90	6.8 to 45	4.5 to 30	3.4 to 23	2.7 to 18	2.3 to 15	1.9 to 13	1.7 to 11	1.4 to 9.0		
	4	2.27	0.3	3.7	2.17	F	M	F	M	M	16.0 to 104	7.9 to 52	5.2 to 35	3.9 to 26	3.1 to 21	2.6 to 17	2.2 to 15	2.0 to 13	1.6 to 10		
	5	2.54	0.4	4.6	2.43	-	M	-	-	-	17.0 to 117	8.7 to 58	5.8 to 39	4.4 to 29	3.5 to 23	2.9 to 19	2.5 to 17	2.2 to 15	1.7 to 12		
	6	2.79	0.5	5.5	2.67	-	F	-	-	-	19.0 to 128	9.6 to 64	6.4 to 43	4.8 to 32	3.8 to 26	3.2 to 21	2.7 to 18	2.4 to 16	1.9 to 13		
11006 XR/XRC TT T.1.00 TT.1.00 All.1.60 (50)	1.5	1.08	0.2	1.3	1.06	M	VC	-	-	-	11.0 to 75	5.6 to 37	3.7 to 25	2.8 to 19	2.2 to 15	1.9 to 12	1.6 to 11	1.4 to 9.4	1.1 to 7.5		
	2	1.94	0.3	1.7	1.81	M	VC	-	-	-	13.0 to 87	6.5 to 43	4.3 to 29	3.3 to 22	2.6 to 17	2.2 to 14	1.9 to 12	1.6 to 11	1.3 to 8.7		
	3	2.37	0.4	2.6	2.22	M	C	-	-	-	16.0 to 107	8.0 to 53	5.3 to 36	4.0 to 27	3.2 to 21	2.7 to 18	2.3 to 15	2.0 to 13	1.6 to 11		
	4	2.74	0.5	3.5	2.57	M	M	F	C	C	19.0 to 123	9.3 to 62	6.2 to 41	4.6 to 31	3.7 to 25	3.1 to 21	2.6 to 18	2.3 to 15	1.9 to 12		
	5	3.06	0.6	4.4	2.87	F	M	F	M	M	21.0 to 138	10.0 to 69	6.9 to 46	5.2 to 34	4.1 to 28	3.4 to 23	3.0 to 20	2.6 to 17	2.1 to 14		
	6	3.35	0.7	5.3	3.15	-	F	-	-	-	23.0 to 151	11.0 to 76	7.6 to 50	5.7 to 38	4.5 to 30	3.7 to 25	3.2 to 22	2.8 to 19	2.3 to 15		
11008 XR/XRC TT T.1.00 TT.1.00 All.1.60 (50)	1.5	2.23	0.3	1.2	1.96	C	VC	-	-	-	14.0 to 94	7.1 to 47	4.7 to 31	3.5 to 24	2.8 to 19	2.4 to 16	2.0 to 13	1.8 to 12	1.4 to 9.4		
	2	2.50	0.4	1.6	2.20	C	VC	-	-	-	16.0 to 109	8.2 to 55	5.5 to 36	4.1 to 27	3.3 to 22	2.7 to 18	2.3 to 16	2.1 to 14	1.6 to 11		
	3	3.16	0.6	2.4	2.91	M	M	VC	VC	VC	20.0 to 135	10.0 to 67	6.7 to 45	5.1 to 34	4.0 to 27	3.4 to 22	2.9 to 19	2.5 to 17	2.0 to 13		
	4	3.66	0.8	3.2	3.25	M	M	M	C	C	23.0 to 156	12.0 to 78	7.8 to 52	5.9 to 39	4.7 to 31	3.9 to 26	3.3 to 22	2.9 to 20	2.3 to 16		
	5	4.08	1.0	4.0	3.64	M	M	M	C	C	26.0 to 175	13.0 to 87	8.7 to 58	6.8 to 44	5.2 to 35	4.4 to 29	3.7 to 25	3.3 to 22	2.6 to 17		
	6	4.47	1.2	4.8	3.99	-	F	-	-	-	29.0 to 192	14.0 to 96	9.6 to 64	7.2 to 48	5.7 to 38	4.8 to 32	4.1 to 27	3.6 to 24	2.9 to 19		
11010 T.1.00 TT.1.00 All.1.60 (50)	1.5	2.79	0.5	1.0	2.28	VC	VC	-	-	-	16.0 to 109	8.2 to 55	5.5 to 36	4.1 to 27	3.3 to 22	2.7 to 18	2.3 to 16	2.1 to 14	1.6 to 11		
	2	3.23	0.7	1.3	2.64	C	VC	-	-	-	19.0 to 127	9.5 to 63	6.3 to 42	4.8 to 32	3.8 to 25	3.2 to 21	2.7 to 18	2.4 to 16	1.9 to 13		
	3	3.95	1.0	2.0	3.25	C	VC	VC	VC	VC	23.0 to 156	12.0 to 78	7.8 to 52	5.9 to 39	4.7 to 31	3.9 to 26	3.3 to 22	2.9 to 20	2.3 to 16		
	4	4.66	1.3	2.7	3.76	C	VC	M	VC	VC	27.0 to 180	14.0 to 90	9.0 to 60	6.8 to 46	5.4 to 36	4.5 to 30	3.9 to 26	3.4 to 23	2.7 to 18		
	5	5.10	1.6	3.4	4.21	M	C	M	VC	VC	30.0 to 202	15.0 to 101	10.0 to 67	7.6 to 51	6.1 to 40	5.1 to 34	4.3 to 29	3.8 to 25	3.0 to 20		
	6	5.59	1.9	4.1	4.61	M	C	M	VC	VC	33.0 to 221	17.0 to 111	11.0 to 74	8.3 to 56	6.6 to 44	5.5 to 37	4.7 to 32	4.1 to 28	3.3 to 22		







# DYNAJET® FLEX 7140

## INSTALLATION, SETUP AND USER GUIDE

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