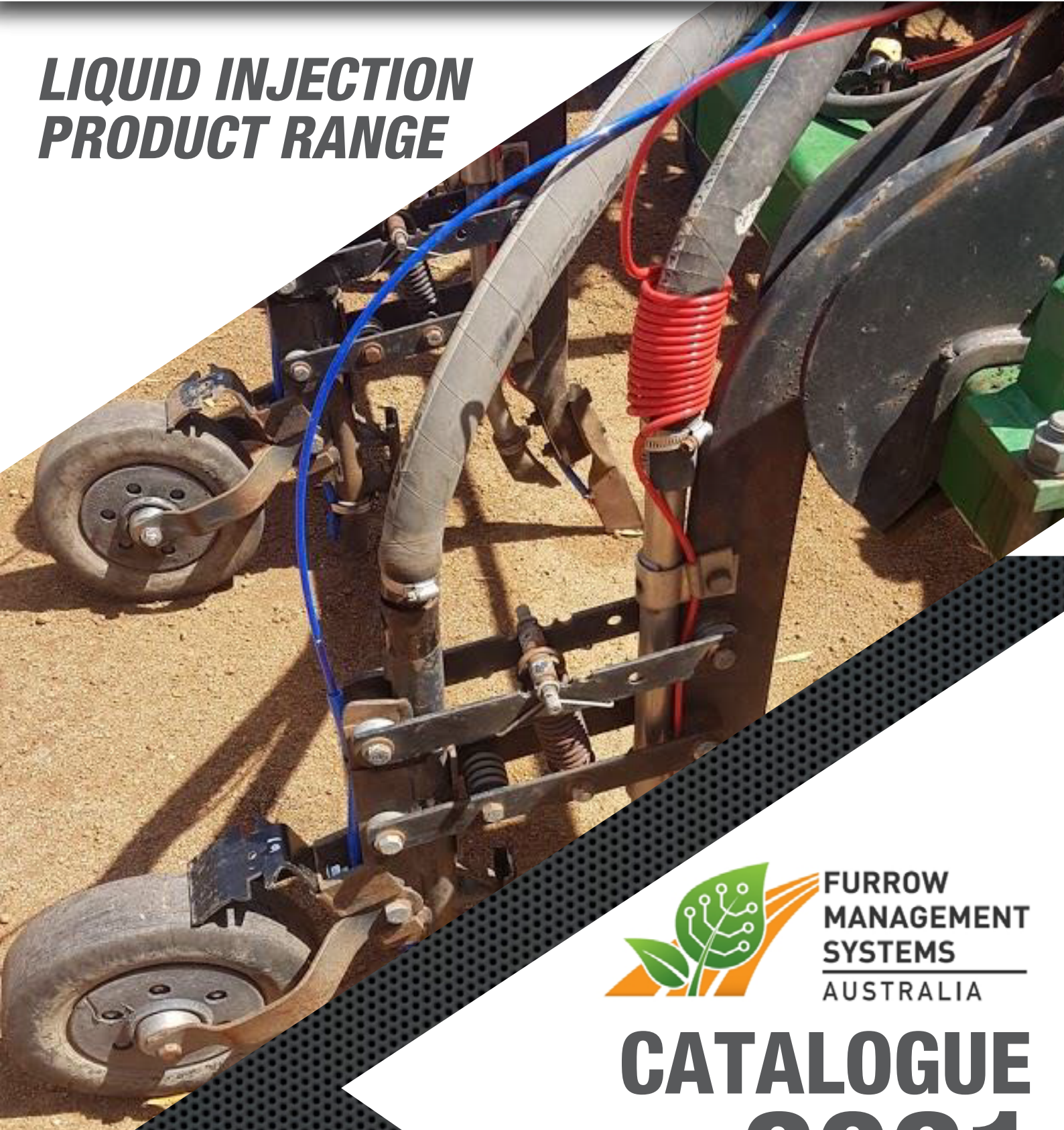


**FURROW MANAGEMENT SYSTEMS AUSTRALIA**

**LIQUID INJECTION  
PRODUCT RANGE**



**FURROW  
MANAGEMENT  
SYSTEMS**  
AUSTRALIA

**CATALOGUE  
2021**

For more information call: (08) 9274 6400 email: [orders@furrowmsa.com.au](mailto:orders@furrowmsa.com.au) or visit: [www.furrowmsa.com.au](http://www.furrowmsa.com.au)

# Furrow MSA and Friction Flow™

FMSA has specialises in the design, manufacture, and distribution of unique and specialised system to Furrow Inject Liquid Fertiliser, Trace Elements, Inoculants, Fungicides, Soil Wetters, and other products at seeding time.

This advancement in seeding practice is due to our Friction Flow™ product. This unique product has been designed by our team in Western Australia and manufactured for our business.

Friction Flow™ tubing and our specialised Suzi Coils offers the farmer the most precise and best Liquid Injection System for broadacre farming.

The Furrow MSA'S liquid Injection FIM units are Variable Rate and Section Control ready and can be easily adapted to existing liquid kits.

FMSA is a WA owned and operated business located in Bellevue WA 6056.

**The Season  
Starts with  
Friction Flow™**



## CONTENTS PAGE

### LIQUID INJECTION MODULES

FIM F & RATE-POD	PAGE 4
FIM A & FIM C	PAGE 5
REGULATING MANIFOLD	PAGE 6

### SECTION CONTROL

SCM6	PAGE 6
SCPM6	PAGE 7

### TWIN LIQUID INJECTION OPTIONS

FIM TWIN	PAGE 7
----------	--------

### FRICION FLOW™ INJECTION SYSTEM

FRICION FLOW™ OVERVIEW	PAGE 8
GUIDE TO FRICION FLOW™ LIQUID INJECTION	PAGE 9
PRIMARY MANIFOLD KIT + FLOW HOSE	PAGE 10
SECONDARY MANIFOLD KIT + FLOW HOSE	PAGE 11
FMSA DISTRIBUTION TUBING	PAGE 12
LIQUID PLACEMENT IN FURROW	PAGE 13
FRICION FLOW™ JOINERS	PAGE 14
FRICION FLOW™ TUBING:	
- RED TUBING	PAGE 15
- GREEN TUBING	PAGE 16
- BLUE TUBING	PAGE 16

### FURROW MSA ADDITIONAL/COMPLIMENTARY PRODUCTS

FILL TAPS:	
- SINGLE, DOUBLE & TRIPLE	PAGE 17
TANK AGITATORS:	
- HYDRAULIC VENTURI AGITATORS	PAGE 18
SUCTION FILTERS	PAGE 19
PRESSURE GAUGES & PRESSURE GAUGE TAKE-OFF	PAGE 20
TANK BREATHER OVERFLOW	PAGE 21
PUMP FIT KIT	PAGE 21
INDUSTRY PARTNERS	PAGE 21
PUMPS	PAGE 22

### FORMS

FMSA FRICION FLOW™ ENQUIRY FORM	PAGE 23
---------------------------------	---------

# FIM-F

FURROW INJECTION MODULE



- Integrated Hypro Pump, available in Stainless Steel or Polypropylene
  - Auto Rate Control Ready with Manual Override
  - High Accuracy Flow Control
  - Precision Arag Componentry
  - Bolt on Stainless Steel Cabinet
  - Integrated Suction Filter
  - Orion 2 Flowmeter
- \* Harnessing available upon request



ORDER CODE: FIM-F

# RATEPOD

FURROW INJECTION MODULE

- Auto Rate Control Ready with Manual Override
- High Accuracy Flow Control
- Precision Arag Componentry
- Bolt on Stainless Steel Cabinet
- Compatible with all pumps
- Wolf Flowmeter

\* Harnessing available upon request

\* Orion2 Flowmeter upgrade available

\* Provide your own Pump and Filtration to complete Rate Pod or FMSA can supply.



ORDER CODE: FIM-RPOD

## LIQUID INJECTION MODULES

# FIM-A

FURROW INJECTION MODULE

**BERTOLINI**  
pumps

- Integrated 126 l/min Bertolini Pump, available with HPS Diaphragms
  - High Accuracy Flow Control, Auto Rate Control Ready with Manual Override
  - Precision Arag Componentry
  - Integrated Suction Filter
  - Bolt on Stainless Steel Cabinet
  - Wolf Flowmeter
- \* Harnessing available upon request  
\* Orion2 Flowmeter upgrade available  
\* PTO Drive Available

ORDER CODE: FIM-A



# FIM-C

FURROW INJECTION MODULE

**BERTOLINI**  
pumps

- Integrated 180-L/min Bertolini Pump, available with HPS Diaphragms
  - High Accuracy Flow Control
  - Precision Arag Componentry
  - Integrated Suction Filter
  - Bolt on Stainless Steel Cabinet
  - Wolf Flowmeter
- \* Harnessing available upon request  
\* Orion2 Flowmeter upgrade available

ORDER CODE: FIM-C



# REGULATING MANIFOLD

- High Accuracy Flow Control
- Auto Rate Control Ready
- Precision Arag Componentry
- Simple DIY Layout
- Wolf Flowmeter



\*Provide your own Pump and Filtration to complete the unit, or FMSA can supply.

\* Orion2 Flowmeter upgrade available

\* High Flow 450LPM Pressure Relief Valve available

ORDER CODE: REGMAN200W

## SECTION CONTROL

### SECTION CONTROL MANIFOLDS - SCM

FMSA's Section Control Manifolds can deliver efficiency gains liquid for product application to seeding operations. By preventing the overlap in paddocks, particularly those with an irregular shape, your input costs are reduced, the improved liquid product application enables the crop to achieve the higher yield potential

FMSA's SCM

- Utilises ARAG 863T Electro valves
- Incorporates FMSA 100MM Stainless Steel Pressure Gauge, including a shroud for protection and mounting onto your seeder

*Options Available:*

- Valve sets of up to 8 sections
- Metered Bypass Valves
- Mounting Bracket Assembly



**SCM8**



**SCM6-MBP**

## SECTION CONTROL PRIMARY MANIFOLD - SCPM

FMSA's SCPM

- FMSA's Basic Section Control Upgrade Kit for the Primary Manifold Unit on existing Friction Flow Backend Kits
- The ARAG 863T valves will bolt onto the existing Primary Manifold Bracket to upgrade the system to Section Control
- This unit incorporates FMSA 63 MM Stainless Steel Pressure Gauge as standard

*Options Available:*

- Valve sets of up to 8 sections
- Metered Bypass Valves
- FMSA 100MM Pressure Gauge



## TWIN LIQUID DELIVERY OPTIONS

**FIMTWIN**  
FURROW INJECTION MODULE

FMSA offer twin combinations of FIM units available upon request. Discounting on the twin modules and combinations apply.



# FRICITION™ FLOW

*Friction induced back-pressure tubing effectively eliminates potential blockages in a liquid fertiliser delivery system.*

*Rather than using an extremely small single point restrictor like an orifice plate, or line meter to create adequate back-pressure, Friction Flow™ works with a large internal diameter, allowing particles to pass freely through the tube while inducing line friction and creating backpressure, allowing liquid product to be accurately metered at any flow rate. Friction Flow™ produces a solid stream from the end of the tube, ensuring accurate product placement in the furrow. No more drips or bubbles at low rates.*

*Built with superior wall strength to resist kinking, crushing and distortion of the internal orifice diameter, Friction Flow™ is manufactured with the highest-grade nylon, true Friction Flow™ offers the highest level of UV stability and chemical & fertiliser resistance on the market. Available in straight lengths or the revolutionary Suzi Coil. Use with an FMSA Furrow Injection Module for a complete liquid delivery system.*

*More friction, less flow; less friction, more flow.*

## FRICION FLOW™ DISTRIBUTION SYSTEM

### Guide to Trouble Free Friction Flow™ Liquid Injection



#### CONTROL SYSTEM

Choose one of FMSA's wide range of Control Systems from manual "Set & Forget" to Auto Rate Control with Section control capability



#### PRIMARY FLOW HOSE

High Grade Australian Manufactured Hose rated for Chemical use



#### PRIMARY DISTRIBUTION MANIFOLD

The first step to precisely divide your liquid across the machine



#### SECONDARY FLOW HOSE

High Grade Australian Manufactured Hose rated for Chemical use



#### SECONDARY DISTRIBUTION MANIFOLD

The last step to precisely divide your liquid to each individual delivery point with incorporated non-drip check valves (Tyne, Disc etc.). One outlet per delivery point required



#### FRICION FLOW™ DISTRIBUTION TUBING

Tubing connects the Secondary Distribution Manifolds with Friction Flow™ joiner on tyne



#### FRICION FLOW™ JOINERS

FMSA recommends the use of 6mm Straight joiners for connecting Friction Flow™ Distribution Tubing to Friction Flow™



#### FRICION FLOW™ TUBING

The key to executing trouble free liquid handling. Available in range of sizes and Suzi Coils

## **PRIMARY DISTRIBUTION MANIFOLD & PRIMARY FLOW HOSE**

*The first stage in setting up your Trouble-Free Friction Flow™ Liquid Injection is the Primary Flow Hose connecting the Primary Distribution Manifold.*

### **PRIMARY FLOW HOSE**

High Grade Australian manufactured hose rated for Chemical use.

High kink resistance and flexibility for ease of handling.

Dimensions: 25mm ID x 20M Rolls

ORDER CODE: PFLOWHOSE



### **PRIMARY DISTRIBUTION MANIFOLD KIT**

The first step to precisely divide your liquid across the machine.

- Outlets for 6 Secondary Distribution Manifolds
- Stainless Steel Mounting Brackets
- Fork coupling, Arag components with Viton O rings
- Chemical resistant parts

The Primary Distribution Manifold Kit is designed to evenly distribute the main liquid stream from the pump module to the Secondary Distribution Manifolds.

ORDER CODE: PMKIT



## **SECONDARY DISTRIBUTION MANIFOLD & SECONDARY FLOW HOSE**

*The last step to precisely divide your liquid to each individual delivery point (Tyne, Disc etc). One outlet per delivery point required. Firstly, by connecting the secondary flow hose from the Primary Distribution Manifold to the Secondary Distribution Manifold*

### **SECONDARY FLOW HOSE**

High Grade Australian manufactured hose rated for Chemical use.

High kink resistance and flexibility for ease of handling.

Dimensions: 12mm ID x 50M Rolls

ORDER CODE: SFLOWHOSE



### **SECONDARY DISTRIBUTION MANIFOLD KIT**

The Secondary Distribution Manifold divides your liquid so it can be delivered to each tyne, disc etc on your machine.

- 5 Double outlets with additional Single Outlet
- 10 Check Valves plus one additional if required
- Stainless Steel Mounting Brackets
- Fork coupling, Arag components with Viton O rings
- Chemical resistant parts

Every outlet of the Secondary Distribution Manifold Kit has integrated Check Valves with Press-Fit fittings for fast installation and Drip-Free Operation.

ORDER CODE: SMKIT



## **FMSA DISTRIBUTION TUBING**

FMSA Distribution Tubing connects the Secondary Distribution Manifold with the connector on the tyne.

- FMSA Distribution Tubing is 6mm External Diameter with 4mm Internal Diameter
- Strong and resists kinking
- High UV stability
- Chemical and Fertiliser resistant



PRODUCT DESCRIPTION	ORDER CODE
20 Meter Roll	D02-006BK20
100 Meter Roll	D02-006BK100

## LIQUID PLACEMENT IN FURROW

Liquid stream placement is critical at seeding to improve seed germination, vigour and nutrient uptake.

Furrow Management can offer you many options to improve your crop establishment.

Combine Friction Flow™ tubing with our 2-Way Tap Kits and/or Stainless Steel Tubing



## 2-WAY TAP KIT

ORDER CODE: RMTTAP

Friction Flow™ Tube used with the 2-Way Tap Kit provides options for Liquid stream placement.

1x 2 Way Divider Connector and 2x Blue Valve Taps

**Parts in Kit:**



**RM2306E x1**

2 WAY DIVIDER CONNECTOR 6MM



**PPMSV040606W x2**

BLUE VALVE TAP EQUAL STRT 6MM

## STAINLESS STEEL TYNE TUBING

Friction Flow™ Tubing combined with Stainless Steel Tubing.

Provides options for Liquid Placement on Seeding Tyne.

ORDER CODE : A269 (tube seamless 1.6\* 9.52mm 316ss per mtr)



## **FRICION FLOW™ JOINERS**

### **Joiner Push Fit 6mm-6mm - Equal Straight Connectors**

*6mm Tube Joiners to connect EXISTING 6MM Distribution Tubing to either Red, Green or Blue Friction Flow™ Tubing.*



ORDER CODE: PM0406E-10 (Packet of 10)

### **Joiner Push Fit 8mm-6mm - Straight Connectors**

*8mm Tube Joiners to connect EXISTING 8MM Distribution Tubing to either Red, Green or Blue Friction Flow™ Tubing.*



ORDER CODE: PM200806E-10 (Packet of 10)

### **Straight Connector Reducer Stem 8mm – 6mm – Stem Connectors**

*Straight stem connectors to connect Friction Flow™ Tubing to existing 8mm tube joiners.*



ORDER CODE: PM060806E-10 (Packet of 10)

### **Straight Adapter 6mm Push Fit to 1/4" Male BSP Stud – Stud Connectors**

*6mm Push Fit stud connectors to modify nozzle caps to connect Friction Flow™ Tubing.*



ORDER CODE: PM010602E-10 (Packet of 10)

### **6mm X 1/4" Female Swivel Connectors – Stem Connectors**

*Use with a straight adaptor, this combination joins 6mm hose to Friction Flow™ tubing*



ORDER CODE: PMNY0606-10 (Packet of 10)

## **FRICION FLOW™ TUBING**

*Friction Flow™ Tube – is the key to executing trouble free liquid handling. Available in a range of sizes and our famous “Suzi-Coil” configuration for ease of installation*

*Speak to a dealer or give us a call to calculate your optimal configuration and maximise your effective application rate range.*

*Complete our Enquiry Form and email to [orders@furrowmsa.com.au](mailto:orders@furrowmsa.com.au)*



## **RED FRICION FLOW™ TUBING**

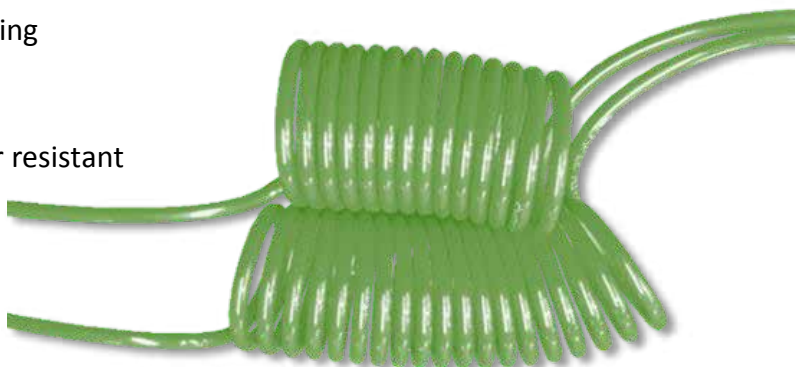
- Red Friction Flow™ Tubing is 6mm External Diameter with 2mm Internal Diameter
- Available in 3M, 4M and 5M Suzi Coils, 20m & 100M rolls
- Strong and resists kinking
- High UV stability
- Chemical and fertiliser resistant

The tube length and internal size of the tube controls the flow. More friction, less flow, less friction more flow

PRODUCT DESCRIPTION	ORDER CODE
20 Meter Roll	DO2-006RD20
100 Meter Roll	DO2-006RD100
2M Suzi Coils	FFREDSUZI2
3M Suzi Coils	FFREDSUZI3
4M Suzi Coils	FFREDSUZI4
5M Suzi Coils	FFREDSUZI5

## **GREEN FRICION FLOW™ TUBING**

- Green Friction Flow™ Tubing is 6mm External Diameter with 1.5 mm Internal Diameter
- Available in 4M Suzi Coils, 20 & 100M Rolls
- Strong and resists kinking
- High UV stability
- Chemical and Fertiliser resistant



The tube length and internal size of the tube controls the flow. More friction, less flow, less friction more flow

PRODUCT DESCRIPTION	ORDER CODE
20 Meter Roll	D02-006GR20
100 Meter Roll	DO2-006GR100
4M Suzi Coils	FFGRSUZI4
3M Suzi Coils	FFGRSUZI3

## **BLUE FRICION FLOW™ TUBING**

- Blue Friction Flow™ Tubing is 6mm External Diameter with 1.2 mm Internal Diameter
- Available in 20 & 100M rolls
- Strong and resists kinking
- High UV stability
- Chemical and Fertiliser resistant

The tube length and internal size of the tube controls the flow. More friction, less flow, less friction more flow

PRODUCT DESCRIPTION	ORDER CODE
20 Meter Roll	D02-006BL20
100 Meter Roll	DO2-006BL100

## **FURROW MSA FILL TAPS**

*Furrow MSA manufactures fill taps for your liquid delivery systems. The taps are 2" ball valves with camlock fittings which are bolted onto a stainless-steel mounting bracket. Also with the option to include a 1" ball valve for freshwater handwashing.*

### **SINGLE FILLING TAP PLATE**

ORDER CODE: STAPASY



### **DOUBLE FILLING TAP PLATE**

ORDER CODE: DTAPASY



### **TRIPLE FILLING TAP PLATE**

ORDER CODE: TTAPASY



## FURROW MSA TANK AGITATORS

*The Furrow MSA Tank Agitators are a fully adjustable and modular nozzle array designed for high flow, low pressure liquid tank turn-over. With outlets directed down and toward any dead spots in the tank. The ideal heavy mixture suspender.*

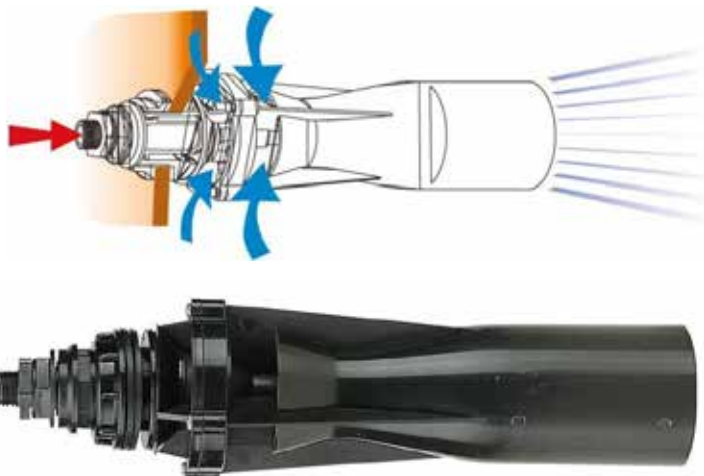
- Highly effective at suspending heavy mixtures
- Precision Arag components
- Modular design without limitation
- Integrated bulkhead fittings
- 25mm hose barb for delivery
- Directable nozzles



ORDER CODE: FIMTREEAGT3

## HYDRAULIC VENTURI AGITATORS

- Double Venturi circuit to increase efficiency and reduce water consumption
- Threaded G ½ connector for simple installation on tank
- Suitable for low pressure or high pressure operation



ORDER CODE: 502065 (5mm nozzle) 502069 (9 mm nozzle) \*other sizes available\*

## **FURROW MSA SUCTION FILTERS**

*Furrow MSA manufactures 32 mesh, 2" and 3" Suction Filters for your liquid delivery systems. The Suction Filters for both 2" and 3" have a bolt-on option that adds a high capacity suction filter and a source selection tap.*

- 3 way selection tap with isolation position
- Stainless Steel mounting bracket
- Viton rubber and Teflon seals
- Hosebarbs available to suit all common hose diameters

\* 50 mesh screen available

\* Drain valve on T9 available



ORDER CODE: SUCTIFLASY-T7 (2")



ORDER CODE: SUCTIFLASY-T9 (3")

## FURROW MSA PRESSURE GAUGES

Furrow MSA manufactures Swivel Pressure Gauges as a bolt on option for Friction Flow Liquid Delivery Systems. The swivel action allows easy to view readings of pressure. Stainless steel mounting bracket and hardware are easy to install on the framework of seeder bars. Receives standard 6mm tubing.

	<b>63MM SWIVEL PRESSURE GAUGE</b>	<b>100MM SWIVEL PRESSURE GAUGE</b>
<b>DIMENSIONS</b>	0 – 16 Bar Scale	0 – 16 Bar Scale
<b>ORDER CODE</b>	PG63K	PG100K



## FURROW MSA PRESSURE GAUGE TAKE-OFF FOR DISTRIBUTION MANIFOLDS

Furrow MSA manufactures Pressure Gauge Take-Offs for Primary and Secondary Distribution Manifolds. The take-offs are a modular option that easily adds on an extra outlet to a Distribution Manifold for connection to a pressure gauge or pressure transducer. Receives standard 6mm tubing or G1/4 BSP thread for pressure transducers.

- Arag fork coupling fittings
- Viton rubber O-ring
- Stainless Steel locking fork
- John Guest push fit stud



	<b>FOR PRIMARY DISTRIBUTION MANIFOLD</b>	<b>FOR SECONDARY DISTRIBUTION MANIFOLD</b>
<b>ORDER CODE</b>	PGTOPM	PGTOSM

## FURROW MSA TANK BREATHER/OVERFLOW

Furrow MSA manufactures Tank Breather/Overflow 2" Kits. These are a safety device for liquid tanks designed to allow clean air into the tank when emptying and discharges liquid overflow safely on the ground.

- 2" double acting valve assembly
- Downspout to ground connection
- 20mm sight glass connection
- Breather cap

ORDER CODE      TNKOB-50



## PUMP FIT KIT

Fitting kits for Hypro Pumps

Various Hose Barb combinations available

ORDER CODE: PUMPFITKIT



## INDUSTRY PARTNERS



## PROUD SUPPLIERS OF



## PUMPS

### HYPRO PUMPS:



ORDER CODE: 9303P-HM4C (PP)



ORDER CODE: 9303S-HM2C (SS) OR 9303S-HM4C (SS)

### BERTOLINI PUMP



ORDER CODE: POLY 2136 (126 LPM)



ORDER CODE: POLY 2180 (180 LPM)

### ARAG PUMP

MSP Series

Multi-Stage Centrifugal Pumps



ORDER CODE: MSP400

### 12VOLT PUMPS



SHURFLO 12 V PUMP

ORDER CODE: SHU5059






12 VOLT BERTOLINI PUMP

ORDER CODE: BERT12V

# FMSA FRICTION FLOW™ ENQUIRY FORM



*Complete to receive quote*

 NAME	
 EMAIL	
 PHONE	

Tick box for quote:

☐ Friction Flow™ Backend Kit  
☐ Fim-F      ☐ Rate-Pod      ☐ Regulating Manifold

Please complete if details known (not essential)

Seeder Bar Width	
Number Of Tynes	
Intended Rate Range (L/HA)	
Intended Speed (KM/H)	
What Liquids Are You Using? <i>(eg. Flexi-N, Trace Elements, Wetting Agents...etc.)</i>	
Number of Secondary Air Delivery Heads	

Dealer/Agency			
Contact Person		Phone	

*Once complete please email to [orders@furrowmsa.com.au](mailto:orders@furrowmsa.com.au)*



**For more information**

**Call: (08) 9274 6400,**

**Visit: [www.furrowmsa.com.au](http://www.furrowmsa.com.au),**

**In-store: 6 Military Road, Bellevue WA 6056**