



Product Catalogue 110

2nd edition

Nozzles and Accessories
for Spraying Equipment

Steffen Graef, Management



Dear customers,

for more than 45 years, agrotop has been a leader in the manufacturing of pioneering products for sprayers and spraying equipment.

We have always pursued an approach of continuous development and improvement of our nozzles and their efficacy with the aim of reducing the impact of chemicals on the environment. Some of our products have gained international renown, including the first no-drift **Servodrop** nozzles and our venturi nozzle inventions, the **TurboDrop**®, **AirMix**®, **VR** and **Hispeed**. These environmentally friendly and high-performance developments have enabled the farming industry to continue using chemical products to protect our crops.

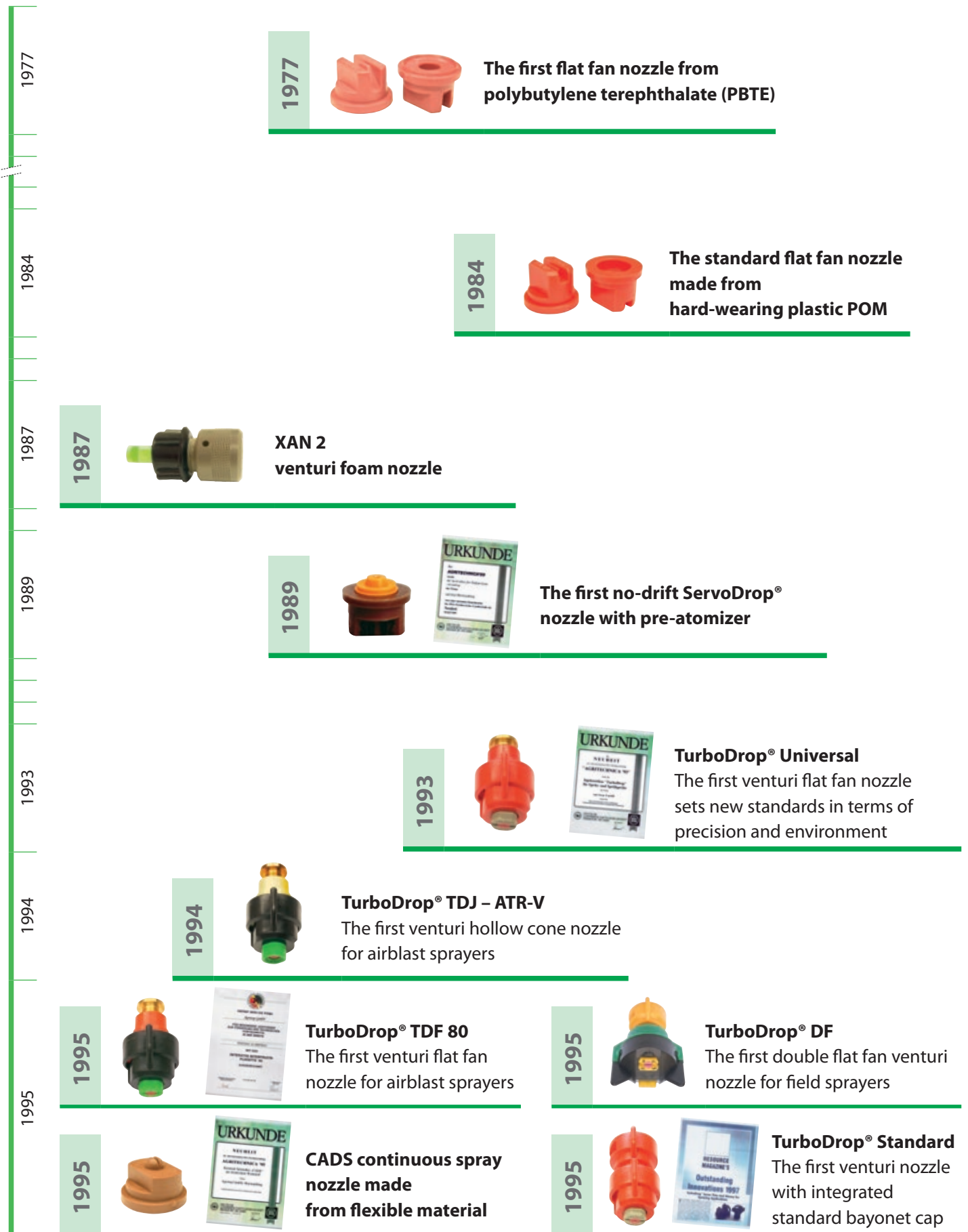
Our latest **SoftDrop** and **SpotFan** nozzles, too, show the way forward. Offering outstanding compatibility with digital PWM equipment, these nozzles save chemical inputs and minimize drift potentials.

We are also leaders in the manufacturing of further components that are essential for operating sprayers and spraying equipment. The success of these products is reflected by the large number of international awards for performing in multiple tests and trials. Our manual and automatic **QuantoFill** dispensers and the new **easyFlow** system for transferring liquid chemicals were developed with the support of a safety-conscious industry and presents a major achievement in terms of metering accuracy, user safety and environmental protection, thereby safeguarding an adequate range of products for farmers to choose from. This is also true for our **Dropleg**® **Beluga** system which allows users to manage challenging applications safely and with efficacy.

This catalogue 110 presents the complete range of our products and information on their features and specifications. For further information, consult our brochure **Application Recommendations 110**.

Steffen Graef
Managing Director

45 years of agrotop



45 years of agrotop

1996

1996



TurboDrop® 20/40/60

The first venturi nozzle for hop sprayers

1997

1997



TurboDrop® XL

The first universal venturi nozzle for field sprayers

2000

2000



AirMix®

The low-pressure venturi nozzle with variable droplet spectrum develops into the benchmark nozzle. The first 'short' venturi nozzle with air cleaning technology

2003

2003



SprayMax

Optimized universal flat fan nozzle

2005

2005



TurboDrop® HiSpeed

The first double flat fan venturi nozzle with asymmetric spray angles for higher forward speeds

2007

2007

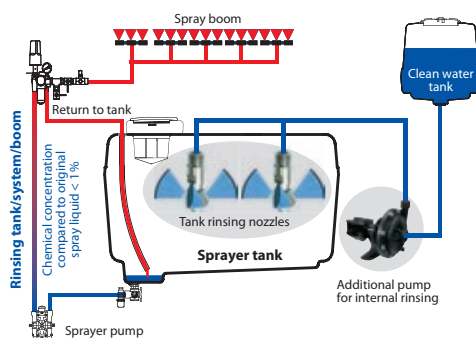


TurboDrop® VR

The first venturi nozzle with variable cross section

2011

2011



Continuous Tank Rinse

This rinse technology offers increased efficiency and considerable savings in water and time

2011



QuantoFill M (silver medal award)

The automatic dispenser controls up to five different

- liquid chemicals
- with a touch of a button

45 years of agrotop

2013

2013



easyFlow (silver medal award)

The closed system for transferring liquids and rinsing systems is a joint development of Bayer and agrotop

2015

2015



SpotFan – AmaSpot system (silver medal award)

The intelligent sensor-nozzle system for reducing chemical inputs is a joint development of Amazone, Rometron and agrotop

2015



easyFlow QF (silver medal)

Closed system with electronic control for transferring liquids and rinsing systems

2016

2016



easyFlow M

Closed dispensing, metering and cleaning system for chemical containers

2017

2017



Dropleg® Beluga

Flexible hose drop for row spraying in the crop stand

2017



SoftDrop

Innovative flat fan nozzle for very coarse droplets and gentle application, made from hard-wearing plastic POM

2020

2020



RowFan® E

Narrow-angle venturi flat fan nozzle, made from hard-wearing plastic POM

Table of contents



Nozzles

Page 7

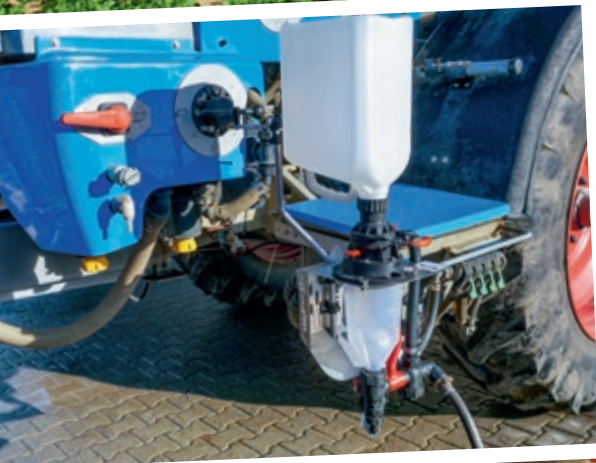
- Nozzle Selection Guide 8
 - Venturi Nozzles / Regular Nozzles 17
 - Nozzle and Ball Check Valve Strainers 53
 - CF Constant Pressure Valve 54
 - Bayonet Caps and Nozzle Bodies 56 ■ ADF Cap 58
 - Threaded Nozzle Bodies 59
 - QuickFit 60 ■ Clear Packaging 61 ■ Tables 62
-



Cleaning and Rinsing

Page 73

- Sprayer Washdown Equipment 74
 - Hopper / Container Rinse 76 ■ Tank Rinse 77
 - Continuous Tank Rinse 78
-



Handling Chemical Products

Page 81

- easyFlow 82 ■ Flow Meter 85
 - No-drip Coupling 85 ■ QuantoFill 86
 - Spray Tank 89 ■ VacuFill® 90 ■ CTS Accessories 92
 - 12V Electric Diaphragm Pumps 93
-



Measuring and Checking

Page 97

- DigE-Check 98
 - QuickCheck Calibration Jug 99
 - Anemometer 100
 - Water-Sensitive Paper 100
-

Pictograms and symbols

The following pictograms are used in this catalogue:



Broadcast/Boom spraying



Special crops



Orchards



Band spraying



Vineyards



Liquid fertilizer



Hops



Drone spraying

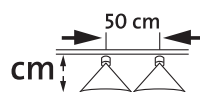


PWM systems

The following symbols are used in this catalogue:



Nominal spray angle



Effective spray height at 50cm nozzle spacing



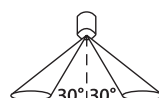
Effective pressure range for spraying applications

Spray width

Approximate spray width on the target area



Spanner size for flat fan nozzles



Spray direction



JKI = Julius Kühn-Institut (previously BBA)

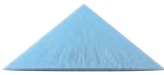
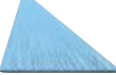
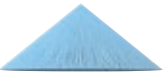
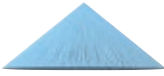


Nozzles

Venturi Nozzles / Regular Nozzles
Nozzle and Ball Check Valve Strainers
Bayonet Caps and Nozzle Bodies
ADF Cap ■ QuickFit
Clear Packaging ■ Tables

Broadcast/Boom spraying

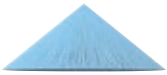
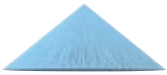
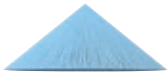
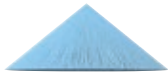
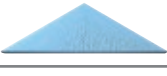
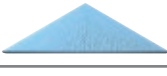
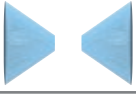
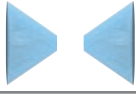
Venturi nozzles for broadcast/boom spraying

Nozzle Type	AirMix® Flat Fan 	AirMix® OC 	AirMix® HC 	TurboDrop® TD Standard 110° 	TurboDrop® TD Standard 80° 	TurboDrop® TD-XL Standard 
Spray Pattern						
Spray Angle	110° / 80°	80° (15° + 65°)	80°	110°	80°	110°
JKI approval*						
Page	17	18	20	26	27	28
Nozzle Type	TurboDrop® TD-XL-D Standard 	TurboDrop® TD-ADF Standard 	TurboDrop® TD-ADF Vario 	TurboDrop® HiSpeed Standard 	TurboDrop® HiSpeed Uni Clip 	TurboDrop® TD VR MK III TipCap 
Spray Pattern						
Spray Angle	110°	2 x 110°	1 x 110° 1 x 80°	2 x 110°	2 x 110°	110°
JKI approval*						
Page	29	32	33	34	35	36
Nozzle Type	TurboDrop® TD VR MK III HiSpeed 					
Spray Pattern						
Spray Angle	2 x 110°					
JKI approval*						
Page	37					

* See the relevant product page for JKI approvals



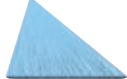
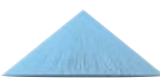
Standard nozzles for broadcast/boom spraying

Nozzle Type	SoftDrop	BPDF PWM	SprayMax	TipCap TCP	TipCap TCC	Hallow cone nozzle
Spray Pattern						
Spray Angle	110°	110°	110° / 80°	110°	110°	45° – 95°
JKI approval*						
Page	24	25	40	41	41	43
Nozzle Type	AN – 1/2 M	Hose drop	Dropleg® Beluga	Dropleg® Beluga L/XL kit		
Spray Pattern						
Spray Angle	100° – 140°					
JKI approval*						
Page	44	46	50	51		

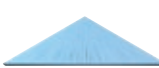
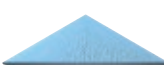
* See the relevant product page for JKI approvals

Band spraying

Venturi nozzles for band spraying

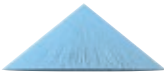
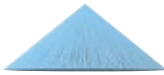
Nozzle Type	AirMix® OC 	AirMix® HC 	AirMix® AN 	SpotFan® 	RowFan® E 	
Spray Pattern						
Spray Angle	80° (15° + 65°)	80°	80° – 130°	40°	40°	
JKI approval*						
Page	18	20	21	22	23	

Standard nozzles for band spraying

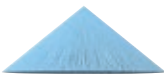
Nozzle Type	SprayMax 	Wide-angle DT nozzle 	Hallow cone nozzle 	Side-shift hose drop 	Dropleg® Beluga L/XL kit 	
Spray Pattern						
Spray Angle	110° / 80°	80° – 145°	45° – 95°			
JKI approval*						
Page	40	42	43	49	51	

* See the relevant product page for JKI approvals

Venturi nozzles for liquid fertilizer applications

Nozzle Type	AirMix® Flat Fan 	TurboDrop® TD Standard 110° 				
Spray Pattern						
Spray Angle	110° / 80°	110°				
JKI approval*						
Page	17	26				

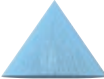
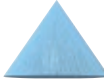
Standard nozzles for liquid fertilizer applications

Nozzle Type	SoftDrop 	TurboDrop® TD VR MK III ESI 	TurboDrop® TD VR MK II VariFlow 	AN – 1/2 M 	Hose drop 	5-stream hose drop 
Spray Pattern						
Spray Angle	110°			100° – 140°		
JKI approval*						
Page	24	38	39	44	46	47
Nozzle Type	Side-shift hose drop 					
Spray Pattern						
Spray Angle						
JKI approval*						
Page	49					

* See the relevant product page for JKI approvals

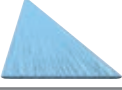
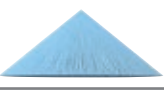


Venturi nozzles for hop sprayers

Nozzle Type	TurboDrop® TD Standard 80° 	TurboDrop® TD 80°/60° Uni Clip 	TurboDrop® TD 40°/20° Uni Clip 			
Spray Pattern						
Spray Angle	80°	80° / 60°	40° / 20°			
JKI approval*						
Page	27	30	31			

* See the relevant product page for JKI approvals

Venturi nozzles for special crops

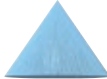
Nozzle Type	AirMix® OC 	AirMix® HC 	AirMix® AN 	TurboDrop® TD 80°/60° Uni Clip 	TurboDrop® TD 40°/20° Uni Clip 	TurboDrop® TD-ADF Standard 
Spray Pattern						
Spray Angle	80° (15° + 65°)	80°	80° – 130°	80° / 60°	40° / 20°	2 x 110°
JKI approval*						
Page	18	20	21	30	31	32
Nozzle Type	TurboDrop® HiSpeed Standard 	TurboDrop® HiSpeed Uni Clip 				
Spray Pattern						
Spray Angle	2 x 110°	2 x 110°				
JKI approval*						
Page	34	35				

Standard nozzles for special crops

Nozzle Type	Hallow cone nozzle 	AN – 1/2 M 				
Spray Pattern						
Spray Angle	45° – 95°	100° – 140°				
JKI approval*						
Page	43	44				

* See the relevant product page for JKI approvals

Venturi nozzles for orchard spraying

Nozzle Type	TurboDrop® TD 80°/60° Uni Clip 	TurboDrop® TD 40°/20° Uni Clip 				
Spray Pattern						
Spray Angle	80° / 60°	40° / 20°				
JKI approval*						
Page	30	31				

* See the relevant product page for JKI approvals



Venturi nozzles for vineyard applications

Nozzle Type	TurboDrop® TD 80°/60° Uni Clip 	TurboDrop® TD 40°/20° Uni Clip 				
Spray Pattern						
Spray Angle	80° / 60°	40° / 20°				
JKI approval*						
Page	30	31				

* See the relevant product page for JKI approvals

Notes

Notes

[illegible]



AirMix® Flat Fan

Low-pressure venturi flat fan nozzle
made from hard-wearing plastic POM



Sizes	Recommended strainer	Nozzle order no.
110-01	100 M green	14308
110-015	50 M blue	14310
110-02	50 M blue	14312
110-025	50 M blue	14314
110-03	50 M blue	14316
110-04	50 M blue	14318
110-05	50 M blue	14321
110-06	24 M red	14323

Sizes	Recommended strainer	Nozzle order no.
80-02	50 M blue	17221
80-025	50 M blue	17371

Features

- Two-piece construction without seal
- Air cleaning technology
- Up to 90% drift reduction
- Very large flow rate range
- Suitable for use in double flat fan caps

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.

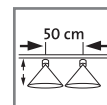
For available package sizes, see pages 60/61.

Specifications



Spray angle
110° / 80°

110-...

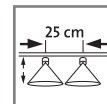


Optimum spray height
40 – 60 cm

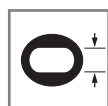


Pressure range
1 – 6 bar

80-02



Optimum spray height
30 – 50 cm



Spanner size
8 mm

Optimum pressure

Pesticides:
2 – 4 bar

Liquid fertilizer:
1 – 2 bar

Typical application



	110-03 Broadcast	110-04 Broadcast	110-05 Broadcast	80-02 Broadcast
90% drift reduction			at 1.0 bar	up to 6.0 bar
75% drift reduction		up to 1.0 bar	up to 1.5 bar	up to 6.0 bar
50% drift reduction	up to 2.0 bar	up to 2.0 bar	up to 6.0 bar	up to 6.0 bar
JKI approval	1.5 to 6.0 bar	1.0 to 6.0 bar	1.0 to 6.0 bar	1.5 to 6.0 bar
Approval code	G 1637	G 1631	G 1638	G 2309

Nozzles

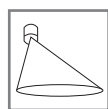


AirMix® OC

Low-pressure venturi off-centre
flat fan nozzle
made from hard-wearing plastic POM
for band spraying

Sizes	Recommended strainer	Nozzle order no.
 80-02	50 M blue	14289
 80-025	50 M blue	14291
 80-03	50 M blue	14293
 80-04	50 M blue	14295
 80-05	50 M blue	14297

Specifications

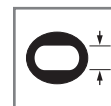


Spray angle
80° (15° + 65°)

Spray width
= approx. 2.3 x
spray height



Pressure range
1 – 6 bar



Spanner size
8 mm

Typical application



Features

- Two-piece construction without seal
- Air cleaning technology
- Very large setting range, significant drift reduction
- Suitable for edge spraying in combination with AirMix® Flat Fan, HiSpeed, AVI-Twin, CVI-Twin and AVI 110°

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.

For available package sizes, see page 61.

	 OC 025 Band spraying	 OC 03 Band spraying	 OC 04 Band spraying	 OC 05 Band spraying
90% drift reduction	up to 3.0 bar	up to 3.0 bar	up to 3.0 bar	1.5 to 5.0 bar
75% drift reduction				
50% drift reduction				
JKI approval	1.5 to 5.0 bar	1.5 to 5.0 bar	1.5 to 5.0 bar	1.5 to 5.0 bar
Approval code	G 1887	G 1888	G 1889	G 1890



AirMix® OC

Low-pressure venturi off-centre flat fan nozzle
suitable as boom end nozzle,
made from hard-wearing plastic POM

Nozzle type	Sizes	Drift reduction classifications for approved edge spray nozzles			Approval code
		90%	75%	50%	
TurboDrop® TD HiSpeed	110-025	OC 80-02 up to 2.5 bar	OC 80-02 up to 3.5 bar	OC 80-02 up to 6.0 bar	G 1996
	110-03		OC 80-025 up to 2.5 bar	OC 80-025 up to 4.0 bar	G 1891
	110-04	OC 80-03 up to 2.0 bar	OC 80-03 up to 3.0 bar	OC 80-03 up to 6.0 bar	G 1892
	110-05		OC 80-04 up to 3.0 bar	OC 80-04 up to 8.0 bar	G 1893
Albuz® CVI-Twin	110-025		OC 80-02 up to 2.0 bar	OC 80-02 up to 3.0 bar	G 1996
	110-03	OC 80-025 up to 1.5 bar	OC 80-025 up to 2.0 bar	OC 80-025 up to 6.0 bar	G 1891
	110-04	OC 80-03 up to 1.5 bar	OC 80-03 up to 6.0 bar		G 1892
	110-05		OC 80-04 up to 6.0 bar		G 1893
Albuz® AVI-TWIN	110-04		OC 80-03 up to 2.5 bar	OC 80-03 up to 4.0 bar	G 1892
SoftDrop	110-04	OC 80-03 up to 2.0 bar	OC 80-03 up to 3.0 bar	OC 80-03 up to 6.0 bar	G 1892
	110-05	OC 80-04 up to 2.5 bar	OC 80-04 up to 5.0 bar	OC 80-04 up to 6.0 bar	G 1893
AirMix® Flat Fan	110-03			OC 80-025 up to 2.0 bar	G 1891
	110-04		OC 80-03 up to 1.0 bar	OC 80-03 up to 2.0 bar	G 1892
	110-05	OC 80-04 up to 1.0 bar	OC 80-04 up to 1.5 bar	OC 80-04 up to 6.0 bar	G 1893
Albuz® AVI 110°	110-03		OC 80-025 up to 3.0 bar	OC 80-025 up to 7.0 bar	G 1891
	110-04		OC 80-03 up to 3.0 bar	OC 80-03 up to 7.0 bar	G 1892

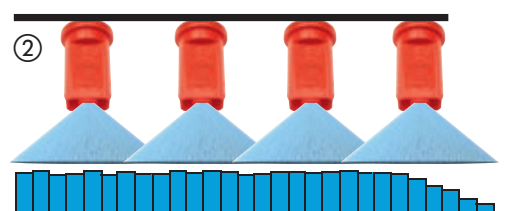
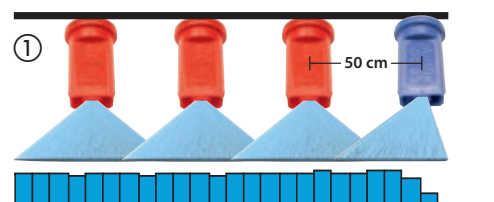


Tips on using AirMix® OC as edge spray nozzle on sprayer booms

When combined with any of the nozzles listed in the table above, AirMix® OC off-centre nozzles can be used as end nozzles on booms for accurate edge spraying. For this, replace the existing end nozzle with an AirMix® OC nozzle.

For an optimum spray distribution and uniform covering along the boom, we recommend installing the nozzle in the following position:

- ① Install AirMix® OC in the outermost nozzle body in replacement of the existing end nozzle. Ensure the spray fan is directed to the inside of the boom. It is best to select an AirMix® OC size that is one size smaller than the existing nozzles (for example, for AirMix® Flat Fan 110-04 select AirMix® OC 80-03 as an edge nozzle. This is attributed to the slightly smaller working width of OC nozzles).
- ② The illustration shows edge spraying with an edge spray nozzle (top) and a regular nozzle (bottom).



Nozzles

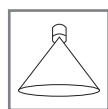


AirMix® HC

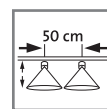
Low-pressure venturi
hollow cone spray nozzle
made from hard-wearing plastic POM

Sizes	Recommended strainer	Nozzle order no.
80-01	100 M green	17186
80-015	50 M blue	17311
80-025	50 M blue	14285

Specifications



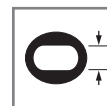
Spray angle
80°



Optimum spray height
60 – 90 cm



Pressure range
1 – 6 bar



Spanner size
8 mm

Typical application



Features

- Uniform droplet spectrum
- The droplet size can be adjusted from very coarse to very fine by altering the pressure
- Significant drift reduction
- Large flow rate range

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.

For available package sizes, see page 61.

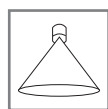


AirMix® AN

Low-pressure venturi deflector nozzle
made from hard-wearing plastic POM

Sizes	Recommended strainer	Nozzle order no.
 130-02	50 M blue	16085
 130-025	50 M blue	16086
 130-04	50 M blue	16068
 130-08	24 M red	17233

Specifications

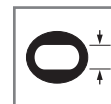


Spray angle
80° – 130°

Optimum spray height
depending
on application



Pressure range
1.5 – 3 bar



Spanner size
Threaded

caps or 8mm
caps with 90° elbow

Typical application



AirMix AN-04 spraying in combination with CF valve (blue) at 2.0 bar and 1.31 l/min flow rate

Features

- Two-piece construction without seal
- Significant drift reduction
- Wide spray fan
- Produces coarse, very coarse and extremely coarse droplets
- Produces a uniform, rectangular and full-width spray; suitable for band spraying
- Ideal for knapsack sprayers.
Achieves optimum results also at low pressures
- Fits in 3/8" threaded caps or round-hole bayonet caps
- Suitable for very low spray heights for best drift control

For flow rates, see the table on page 66.

For application rate formulas, see page 71.

Nozzles

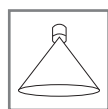


SpotFan®

Narrow-angle venturi flat fan nozzle
made from hard-wearing plastic POM

Sizes	Recommended strainer	Nozzle order no.
 40-02	50 M blue	17172
 40-03	50 M blue	16753
 40-04	50 M blue	17115

Specifications

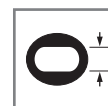


Spray angle
40°

Optimum spray height
depending
on application



Pressure range
2 – 6 bar



Spanner size
8 mm

Typical application



Features

- Compatible with all major PWM systems
- Very effective drift reduction
- Two-piece construction without seal
- Air cleaning technology

For flow rates, see the table on page 66.

For application rate formulas, see page 71.



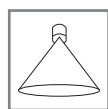
RowFan® E

Narrow-angle venturi flat fan nozzle
made from hard-wearing plastic POM

Sizes	Recommended strainer	Nozzle order no.
40-01E	50 M blue	17230
40-02E	50 M blue	17164



Specifications

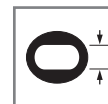


Spray angle
40°

Optimum spray height
depending
on application



Pressure range
2 – 6 bar



Spanner size
8 mm

Typical application



Features

- Droplet distribution is optimized for band spraying
- Compatible with all major PWM systems
- Very effective drift reduction
- Two-piece construction without seal
- Air cleaning technology

8mm bayonet cap, black, 7 - 45° adjusting range.
See page 57.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.

	40-01E Band sprayers	40-01E Banding from boom sprayers	40-02E Band sprayers	40-02E Banding from boom sprayers
90% drift reduction	up to 6.0 bar	up to 6.0 bar	up to 6.0 bar	up to 2.0 bar
75% drift reduction				up to 6.0 bar
50% drift reduction				
JKI approval	2.0 to 6.0 bar	2.0 to 6.0 bar	2.0 to 6.0 bar	2.0 to 6.0 bar
Approval code	G 2304	G 2304	G 2242	G 2242

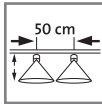
Nozzles



SoftDrop

Flat fan nozzle
for coarse droplet spray applications
made from hard-wearing plastic POM

Sizes	Recommended strainer	Nozzle order no.
■ 110-04	50 M blue	16698
■ 110-05	50 M blue	16699
■ 110-06	24 M red	16700
■ 110-08	24 M red	16701
■ 110-10	24 M red	16891

Specifications		
	Spray angle 110°	 Optimum spray height 40 – 60 cm
	Pressure range 1.5 – 8 bar	
Optimum pressure 1.5 – 6 bar	Typical application	  

Features

- Produces coarse droplets without venturi, ideal for all major PWM systems
- Very effective drift reduction
- Nozzle and cap are one piece
- ISO sizes
- Excellent spray distribution along the boom
- Ideal for applying liquid fertilizer and liquid fertilizer / pesticide formulations

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.

Supplied with standard 3mm sealing ring.

	■ 110-04 Broadcast	■ 110-05 Broadcast
90% drift reduction	up to 2.0 bar	up to 2.5 bar
75% drift reduction	up to 3.0 bar	up to 5.0 bar
50% drift reduction	up to 6.0 bar	up to 6.0 bar
JKI approval	2.0 to 6.0 bar	2.0 to 6.0 bar
Approval code	G 2103	G 2104



BPDF PWM

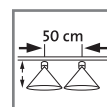
Low-pressure flat fan nozzle
made from hard-wearing plastic POM

Sizes	Recommended strainer	Nozzle order no.
■ 1.5	50 M blue	17240
■ 2	50 M blue	17178
■ 3	50 M blue	17016
■ 4	50 M blue	17017
■ 5	50 M blue	17018
■ 6	50 M blue	17019

Specifications



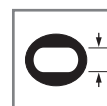
Spray angle
110°



Optimum spray height
40 – 60 cm



Pressure range
1 – 6 bar



Spanner size
8 mm

Optimum pressure

Pesticides:
2 – 4 bar

Typical application



Features

- Two-piece construction without seal
- Ideal for PWM systems
- Very large flow rate setting range
- Suitable for use in double flat fan caps

For available package sizes, see page 61.

Nozzles

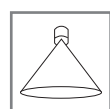


TurboDrop® TD Standard 110°

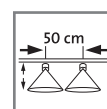
Venturi flat fan nozzle
with integrated standard bayonet cap
plastic-coated ceramic

Sizes	Recommended strainer	Nozzle order no.
110-01	100 M green	14124
110-015	50 M blue	14125
110-02	50 M blue	14126
110-025	50 M blue	14127
110-03	50 M blue	14128
110-04	50 M blue	14129
110-05	50 M blue	14130
110-06	24 M red	14131
110-08	24 M red	14132
110-10	24 M red	14133

Specifications



Spray angle
110°



Optimum spray height
40 – 60 cm



Pressure range
2 – 10 bar

Optimum pressure

Pesticides:
4 – 8 bar

Liquid fertilizer:
2 – 3 bar

Typical application



Features

- Maximum wear resistance and precision (service life potential of more than 50,000ha)
- Plastic-coated ceramic
- High pressure application for excellent crop penetration
- Large pressure range, large flow rate range
- Very easy cleaning, disassembled without tools and even wearing gloves
- Universal nozzle suits all types of crops and various growth stages
- Constant, low drift droplet spectrum over wide pressure range

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.

Supplied with standard 3mm sealing ring (charged extra).

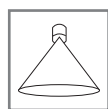


TurboDrop® TD Standard 80°

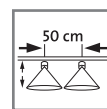
Venturi flat fan nozzle
with integrated standard bayonet cap
plastic-coated ceramic

Sizes	Recommended strainer	Nozzle order no.
80-01	100 M green	14158
80-015	50 M blue	14159
80-02	50 M blue	14160
80-025	50 M blue	14161
80-03	50 M blue	14162
80-04	50 M blue	14163
80-05	50 M blue	14164
80-06	24 M red	14165
80-08	24 M red	14166
80-10	24 M red	14167

Specifications



Spray angle
80°



Optimum spray height
40 – 60 cm



Pressure range
2 – 10 bar

Optimum pressure

Pesticides:
4 – 8 bar

Liquid fertilizer:
2 – 3 bar

Typical application



Features

- Maximum wear resistance and precision (service life potential of more than 50,000ha)
- Plastic-coated ceramic
- High pressure application for excellent penetration
- Large pressure range, large flow rate range
- Very easy cleaning, disassembled without tools and even wearing gloves

- Universal nozzle suits all types of crops and various growth stages
- Constant, low drift droplet spectrum over wide pressure range

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.

Supplied with standard 3mm sealing ring (charged extra).

	■ 80-08 Hops
90% drift reduction	3.0 to 10.0 bar
75% drift reduction	
50% drift reduction	
JKI approval	3.0 to 10.0 bar
Approval code	G 1703

Parts kit for hop spray booms



Parts kit incl. nozzle	Order no.
80-03	15656
80-04	15657
80-05	16451
80-06	16452
80-08	14377

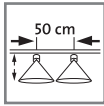
Nozzles



TurboDrop® TD-XL Standard

Universal venturi flat fan nozzle
with integrated standard bayonet cap
– all plastic or semi ceramic

Sizes	Recom- mended strainer	Order no. Semi ceramic	Order no. Plastic
110-01	100 M green	13605	13666
110-015	50 M blue	13656	13665
110-02	50 M blue	13658	13668
110-025	50 M blue	13657	13667
110-03	50 M blue	13659	13669
110-04	50 M blue	13660	13670
110-05	50 M blue	13661	13671
110-06	24 M red	13662	13672
110-08	24 M red	13663	13673
110-10	24 M red	13664	13674
110-15	–	–	16111

Specifications	
 Spray angle 110°	 Optimum spray height 40 – 60 cm
 Pressure range 1 – 8 bar	
Optimum pressure Pesticides: 2 – 4 bar Liquid fertilizer: 1 – 2 bar	Typical application 



Features

- Produces a variable and low-drift droplet spectrum and finer droplets at high pressures
- Very large range of setting options
- Two-piece design with TCP distributor tip for very easy cleaning without tools
- The distributor tip is exactly twice the size of the venturi
- Venturi and distributor tip have different ISO colours

- Ideal for mixed arable farms where water volumes and droplet sizes vary depending on the application
- Extremely wear-resistant, especially in semi ceramic specification

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.

Supplied with standard 3mm sealing ring (charged extra).

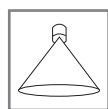


TurboDrop® TD-XL-D Standard

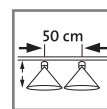
Coarse-droplet venturi flat fan nozzle
with integrated standard bayonet cap,
made from hard-wearing plastic POM

Sizes	Recommended strainer	Nozzle order no.
■ 110-015	50 M blue	16906
■ 110-02	50 M blue	16907
■ 110-025	50 M blue	16908
■ 110-03	50 M blue	16909
■ 110-04	50 M blue	16910
■ 110-05	50 M blue	16911
■ 110-08	24 M red	15704

Specifications



Spray angle
110°



Optimum spray height
40 – 60 cm



Pressure range
1 – 8 bar

Optimum pressure

Pesticides:
2 – 4 bar

Liquid fertilizer:
1 – 2 bar

Typical application



Venturi

Distributor tips

Features

- Large, low-drift droplet spectrum
- Very large range of setting options
- Two-piece design with TCP distributor tip for very easy cleaning without tools
- Venturi and distributor tip have different ISO colours
- Ideal for high drift-risk applications

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.

Supplied with standard 3mm sealing ring (charged extra).

Nozzles



TurboDrop® TD 80°/60° Uni Clip

Narrow-angle
high-pressure venturi flat fan nozzle
plastic-coated ceramic



Sizes	Recommended strainer	Nozzle order no.
80-01	100 M green	16345
80-015	50 M blue	16346
80-02	50 M blue	16347
80-025	50 M blue	16348
80-03	50 M blue	16164
80-04	50 M blue	16192
80-05	50 M blue	16109
80-06	24 M red	16188
80-08	24 M red	17020
80-10	24 M red	16350

Sizes	Recommended strainer	Nozzle order no.
60-01	100 M green	16365
60-015	50 M blue	16366
60-02	50 M blue	16367
60-025	50 M blue	16368
60-03	50 M blue	16324
60-04	50 M blue	16211
60-05	50 M blue	16098
60-06	24 M red	16185
60-08	24 M red	16369
60-10	24 M red	17074

Specifications



Spray angle
80°/60°



Pressure range
5 – 35 bar

Typical application



Features

- Extremely low-drift, coarse droplet spectrum
- Very high droplet speed
- Very large range and very effective penetration
- Large pressure range
- Maximum wear resistance and precision as TD Standard
- JKI-approved sets for hop and orchard spraying. 90% drift reduction to JKI approval

	Hochstamm nozzle set*	Tettnang nozzle set*	Hallertau nozzle set*
90% drift reduction	16.0 to 30.0 bar	16.0 to 30.0 bar	16.0 to 30.0 bar
75% drift reduction			
50% drift reduction			
JKI approval	16.0 to 30.0 bar	16.0 to 30.0 bar	16.0 to 30.0 bar
Approval code	G 1722	G 1714	G 1715



TurboDrop® TD 40°/20° Uni Clip

Narrow-angle
high-pressure venturi flat fan nozzle
plastic-coated ceramic



Sizes	Recommended strainer	Nozzle order no.
40-01	100 M green	16360
40-015	50 M blue	16361
40-02	50 M blue	16362
40-025	50 M blue	16363
40-03	50 M blue	16323
40-04	50 M blue	16197
40-05	50 M blue	16130
40-06	24 M red	16171
40-08	24 M red	16364

Sizes	Recommended strainer	Nozzle order no.
20-01	100 M green	16351
20-015	50 M blue	16352
20-02	50 M blue	16353
20-025	50 M blue	16354
20-03	50 M blue	16355
20-04	50 M blue	16356
20-05	50 M blue	16357
20-06	24 M red	16358
20-08	24 M red	16359

Specifications



Spray angle
40° / 20°



Pressure range
5 – 35 bar

Typical application

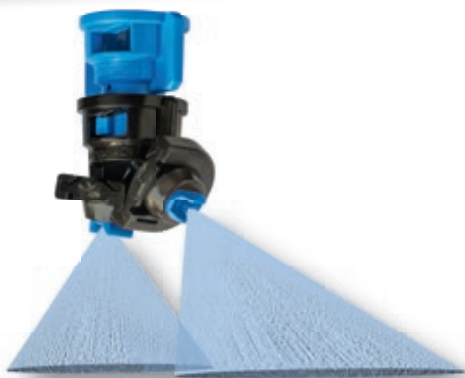


Features

- Extremely low-drift, coarse droplet spectrum
- Very high droplet speed
- Very large range and very effective penetration
- Large pressure range
- Maximum wear resistance and precision as TD Standard
- JKI-approved sets for hop and orchard sprayers. 90% drift reduction to JKI approval

	Hallertau nozzle set*
90% drift reduction	16.0 to 30.0 bar
75% drift reduction	
50% drift reduction	
JKI approval	16.0 to 30.0 bar
Approval code	G 1715

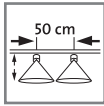
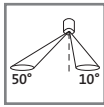
Nozzles



TurboDrop® TD-ADF Standard

Asymmetric double flat fan
venturi nozzle with
integrated standard bayonet cap

Sizes	Recom- mended strainer	Order no. Plastic	Order no. Semi ceramic
TD-ADF -01	100 M green	13754	13774
TD-ADF -015	50 M blue	13756	13776
TD-ADF -02	50 M blue	13758	13778
TD-ADF -025	50 M blue	13760	13780
TD-ADF -03	50 M blue	13762	13782
TD-ADF -04	50 M blue	13764	13784
TD-ADF -05	50 M blue	13766	13786
TD-ADF -06	24 M red	13768	13788
TD-ADF -08	24 M red	13770	13790
TD-ADF -10	24 M red	13772	13792
TD-ADF -15	–	16113	–

Specifications			
	Spray angle 2 x 110°		Optimum spray height 40 – 60 cm
	Pressure range 1.5 – 8 bar		Spray direction 50°/10°
Optimum pressure 2 – 4 bar		Typical application  	

Features

- Asymmetric spray angles for higher forward speeds
- Small 10° forward spray angle protects the sprayer
- Effective drift reduction and deposition on vertical and away-facing target areas
- Suitable for use as a universal nozzle

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.

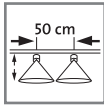
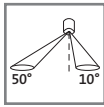
Supplied with standard 3mm sealing ring (charged extra).



TurboDrop® TD-ADF Vario

Asymmetric double flat fan venturi
nozzle for a wide droplet spectrum
with integrated
standard bayonet cap, plastic

Sizes	Recommended strainer	Nozzle order no.
■ TD-ADF -02	50 M blue	16754
■ TD-ADF -025	50 M blue	16755
■ TD-ADF -03	50 M blue	16756
■ TD-ADF -04	50 M blue	16757
■ TD-ADF -05	50 M blue	16758

Specifications			
	Spray angle 1 x 110° forward 1 x 80° back		Optimum spray height 40 – 60 cm
	Pressure range 2 – 8 bar		Spray direction 50°/10°
Optimum pressure 2 – 6 bar		Typical application 	

Features

- Finer forward droplets optimize the efficacy of the application
- Larger backward droplets reduce the drift potential
- Improved product deposition on vertical and angled targets
- The asymmetric spray angles (110° forward angle, 80° backward) give identical spray widths on the target area

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.

Supplied with standard 3mm sealing ring (charged extra).

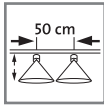
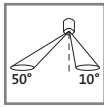
Nozzles



TurboDrop® HiSpeed Standard

Asymmetric double flat fan
venturi nozzle
made from plastic-coated ceramic with
integrated standard bayonet cap

Sizes	Recommended strainer	Nozzle order no.
110-01	100 M green	14038
110-015	50 M blue	14039
110-02	50 M blue	14040
110-025	50 M blue	14041
110-03	50 M blue	14042
110-04	50 M blue	14043
110-05	50 M blue	14044
110-06	24 M red	14045
110-08	24 M red	14046

Specifications			
	Spray angle 2 x 110°		Optimum spray height 40 – 60 cm
	Pressure range 2 – 10 bar		Spray direction 50°/10°
Optimum pressure 3 – 7 bar		Typical application  	

Features

- Asymmetric spray angles protect the sprayer
- Compact design
- Significant drift reduction and optimal deposition on the target
- Ideal for applying fungicides, insecticides and post-emergence herbicides
- Made of hard red ceramic
- Very easy cleaning, disassembled without tools and even wearing gloves

- Improves product deposition on vertical and angled target areas

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.

Supplied with standard 3mm sealing ring (charged extra).

	110-02 Broadcast	110-025 Broadcast	110-03 Broadcast	110-04 Broadcast	110-05 Broadcast
90% drift reduction		up to 2.5 bar		up to 2.0 bar	
75% drift reduction	up to 3.0 bar	up to 3.5 bar	at 2.5 bar	up to 3.0 bar	up to 3.0 bar
50% drift reduction	up to 5.0 bar	up to 6.0 bar	up to 4.0 bar	up to 6.0 bar	2.0 to 8.0 bar
JKI approval	2.0 to 8.0 bar	2.5 to 8.0 bar	2.5 to 8.0 bar	2.0 to 8.0 bar	2.0 to 8.0 bar
Approval code	G 1819	G 1896	G 1820	G 1821	G 1822

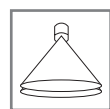


TurboDrop® HiSpeed Uni Clip

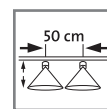
Asymmetric double flat fan
venturi nozzle
from plastic-coated ceramic

Sizes	Recommended strainer	Nozzle order no.
■ 110-015	50 M blue	16545
■ 110-02	50 M blue	16200
■ 110-025	50 M blue	16392
■ 110-03	50 M blue	16201
■ 110-04	50 M blue	16128
■ 110-05	50 M blue	16078
■ 110-06	24 M red	16599

Specifications



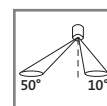
Spray angle
2 x 110°



Optimum spray height
40 – 60 cm



Pressure range
2 – 10 bar



Spray direction
50°/10°

Optimum pressure
3 – 7 bar

Typical application



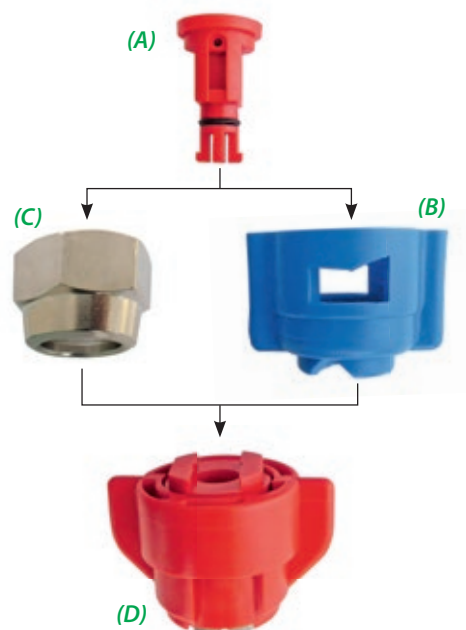
Features

- Asymmetric spray angles protect the sprayer
- Compact design
- Significant drift reduction and optimal deposition on the target
- Ideal for applying fungicides, insecticides and post-emergence herbicides
- Made of hard red ceramic
- Very easy cleaning, disassembled without tools and even wearing gloves
- Improves product deposition on vertical and angled target areas

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.



- (A) TD Uni Clip Venturi
(B) Bayonet cap, 8mm spanner size
(C) 12.5mm threaded cap nut, sourced from the sprayer
(D) TD Uni Clip bayonet assembly

Nozzles



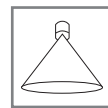
TurboDrop® VR MK III TipCap

Venturi flat fan nozzle
for variable flow rates

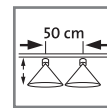
Sizes	Recommended strainer*	Nozzle order no.
■ VR 1.5	50 M blue	16994
■ VR 2	50 M blue	16995
■ VR 3	50 M blue	16996
■ VR 5	50 M blue	16997



Specifications



Spray angle
110°



Optimum spray height
40 – 60 cm



Pressure range
2 – 8 bar

Optimum pressure
3 – 7 bar

Typical application



Features

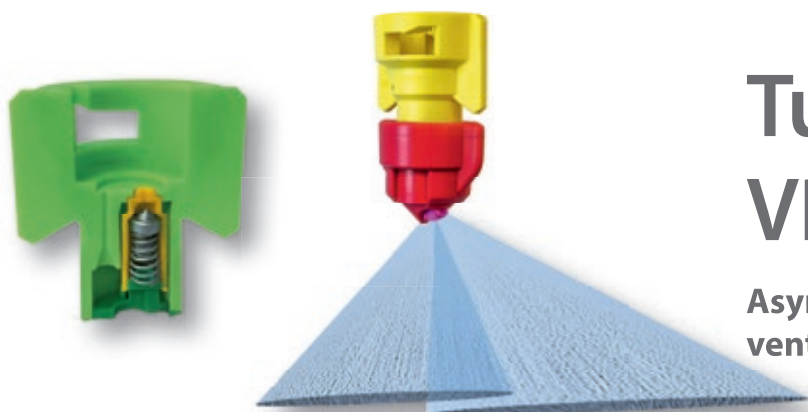
- Integral bypass valve increases flow rate options
- Replaces up to three standard TD-XL sizes
- Significantly lower priced and more compact than automatic nozzle change systems
- Continuous flow rate variation eliminates dosing errors by incremental flow rate changes
- Suitable for applications where rates are changed frequently
- Variable, low-drift droplet spectrum and finer droplets at high pressures
- Two-piece design with TCP distributor tip for very easy cleaning without tools

* To be used with strainer F 50 M blue, order no. 16609

For litre/ha rates, see the tables on page 69.

For application rate formulas, see page 71.

Supplied with standard 3mm sealing ring (charged extra).



TurboDrop® VR MK III HiSpeed

Asymmetric double flat fan
venturi nozzle for variable flow rates

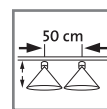
Sizes	Recommended strainer*	Nozzle order no.
■ VR 1.5	50 M blue	17084
■ VR 2	50 M blue	17085
■ VR 3	50 M blue	17086



Specifications



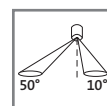
Spray angle
2 x 110°



Optimum spray height
40 – 60 cm



Pressure range
2 – 8 bar



Spray direction
50°/10°

Optimum pressure
3 – 7 bar

Typical application



Features

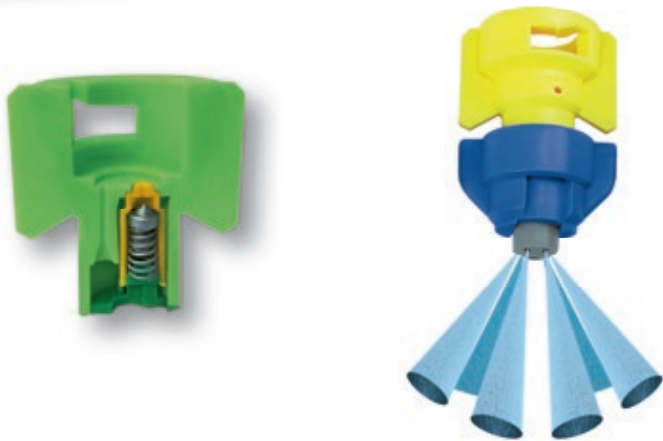
- Integral bypass valve increases flow rate options
- Replaces up to three TD HiSpeed standard sizes
- Significantly lower priced and more compact than automatic nozzle change systems
- Continuous flow rate variation eliminates dosing errors by incremental flow rate changes
- Suitable for applications where rates are changed frequently
- Asymmetric spray angles for higher forward speeds
- Small 10° forward spray angle protects the sprayer
- Significant drift reduction and optimal deposition on the target
- Made of hard red ceramic

* To be used with strainer F 50 M blue, order no. 16609

For litre/ha rates, see the tables on page 69.

For application rate formulas, see page 71.

Supplied with standard 3mm sealing ring (charged extra).



TurboDrop® VR MK III ESI

6-stream liquid fertilizer spray nozzle
for variable flow rates

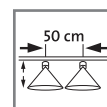
Sizes	Recommended strainer*	Nozzle order no.
■ VR 1.5	50 M blue	17157
■ VR 2	50 M blue	17158
■ VR 3	50 M blue	17159
■ VR 5	50 M blue	17160



Specifications



Pressure range
2 – 8 bar



**Optimum
spray height**
60 cm

Optimum pressure
3 – 7 bar

Typical application



Features

- Integral bypass valve increases flow rate options
- Replaces up to three 6-stream Albuz® ESI sizes
- Significantly lower priced and more compact than automatic nozzle change systems
- Continuous flow rate variation eliminates dosing errors by incremental flow rate changes
- Suitable for applications where rates are changed frequently
- Large and soft droplets minimize risk of chemical burn
- Six spray jets

* To be used with strainer F 50 M blue, order no. 16609

For litre/ha rates, see the tables on page 70.

For application rate formulas, see page 71.

Supplied with standard 3mm sealing ring (charged extra).



TurboDrop® VR MK II VariFlow

Dosing element for hoses

Sizes	Recommended strainer*	Nozzle order no.
■ VR 1.5	50 M blue	16091
■ VR 2	50 M blue	16092
■ VR 3	50 M blue	16093
■ VR 5	50 M blue	16061

Specifications		
	Pressure range 2 – 8 bar	Typical application 
	Optimum pressure 3 – 7 bar	Hose connection 3/8"

Features

- Integral bypass valve increases flow rate options
- Ideal for hose drop application of liquid fertilizer
- One element replaces up to three ISO nozzle sizes
- Continuous flow rate variation eliminates dosing errors by incremental flow rate changes
- Suitable for applications where rates are changed frequently

* To be used with strainer F 50 M blue, order no. 16609

For litre/ha rates, see the tables on page 70.

For application rate formulas, see page 71.

Supplied with standard 3mm sealing ring (charged extra).

Nozzles



SprayMax

Universal flat fan nozzle
made from
hard-wearing plastic POM



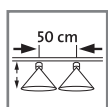
Sizes	Recommended strainer	Nozzle order no.
110-01	100 M green	13424
110-015	50 M blue	13426
110-02	50 M blue	13430
110-025	50 M blue	13432
110-03	50 M blue	13436
110-04	50 M blue	13439
110-05	50 M blue	13442
110-06	24 M red	13445
110-08	24 M red	13448
110-10	24 M red	13451
110-15	–	16112

Sizes	Recommended strainer	Nozzle order no.
80-015	50 M blue	13405
80-02	50 M blue	13406
80-03	50 M blue	13409
80-04	50 M blue	13411
80-05	50 M blue	13414
80-06	24 M red	13416
80-08	24 M red	13419
80-10	24 M red	13421

Specifications



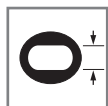
Spray angle
110°/80°



Optimum spray height
40 – 60 cm



Pressure range
1 – 4 bar



Spanner size
8 mm

Typical application



Features

- ISO sizes
- High-precision application
- Large pressure range, large flow rate range
- Extremely wear-resistant

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.



TipCap TCP

Universal
flat fan nozzle
with integrated
standard bayonet cap
made from hard-
wearing plastic POM



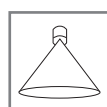
TipCap TCC

Universal
flat fan nozzle
with integrated
standard bayonet cap
plastic-coated
ceramic

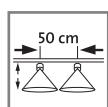
Sizes	Recommended strainer	Nozzle order no.
■ 110-02	50 M blue	13362
■ 110-03	50 M blue	13366
■ 110-04	50 M blue	13370
■ 110-05	50 M blue	13374
■ 110-06	24 M red	13378
■ 110-08	24 M red	13382
■ 110-10	24 M red	13386
■ 110-12	No strainer required	13390
■ 110-16		13394
■ 110-20		13398
■ 110-30		16116

Sizes	Recommended strainer	Nozzle order no.
■ 110-015	50 M blue	13355
■ 110-02	50 M blue	13356
■ 110-03	50 M blue	13357
■ 110-04	50 M blue	13358
■ 110-05	50 M blue	13359
■ 110-06	24 M red	13360
■ 110-08	24 M red	13361

Specifications



Spray angle
110°



**Optimum
spray height**
40 – 60 cm

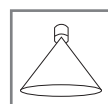


Pressure range
1 – 4 bar

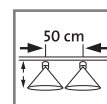


Typical application

Specifications



Spray angle
110°



**Optimum
spray height**
40 – 60 cm



Pressure range
2 – 4 bar



Typical application

Features

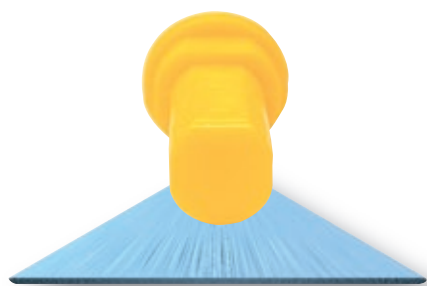
- Nozzle and cap are one piece
- Colour-coded nozzle sizes
- Ceramic inserts for maximum precision and wear resistance

Further information on both TipCap models:

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.



Wide-angle DT nozzle

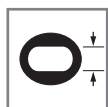
Wide-angle flat fan nozzle
for band, row and inter-row spraying,
made from hard-wearing plastic POM

Sizes	Angle at 1.5 bar	l/min at 1.0 bar	l/min at 1.5 bar	l/min at 2.0 bar	l/min at 2.5 bar	Recommended strainer	Nozzle order no.
DT 0.5	80°	0.23	0.28	0.32	0.36	100 M green	13165
DT 0.75	95°	0.34	0.42	0.48	0.54	100 M green	13166
DT 1.0	105°	0.46	0.56	0.65	0.72	50 M blue	13167
DT 1.5	105°	0.68	0.84	0.97	1.08	50 M blue	13169
DT 2.0	105°	0.91	1.12	1.29	1.44	50 M blue	13172
DT 2.5	110°	1.14	1.40	1.61	1.80	24 M red	13174
DT 3.0	110°	1.37	1.69	1.93	2.16	24 M red	13175
DT 4.0	120°	1.82	2.25	2.58	2.88	24 M red	13176
DT 5.0	125°	2.28	2.81	3.22	3.60	24 M red	13177
DT 7.5	145°	3.42	4.21	4.83	5.40	24 M red	13178
DT 10	145°	4.56	5.62	6.45	7.21	24 M red	13168
DT 15	145°	6.84	8.43	9.67	10.81	24 M red	13170
DT 20	145°	9.12	11.24	12.89	14.41	24 M red	13173

Specifications



Spray angle
80° – 145°



Spanner size
8 mm



Pressure range
1 – 3 bar

Typical application



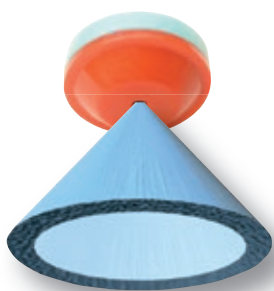
Features

- Deflector nozzle minimizes clogging
- Lowest spray heights minimize drift potential
- Ideal for knapsack sprayers and inter-row spraying

For litre/ha rates, see the ISO tables on pages 62/67.

For flow rates, see the table on page 66.

For application rate formulas, see page 71.

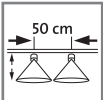


DC hollow cone nozzle

Two-piece hollow cone nozzle from hard-wearing plastic POM, comprising orifice disc D and swirl plate C

 Sizes	Recommended strainer	Application rate l/min at 3 bar	Nozzle order no.
■ D 2	50 M blue	0.83	13153
■ D 3	50 M blue	1.05	13155
■ D 4	24 M red	1.91	13157
■ D 5	24 M red	3.10	13158
■ D 6	24 M red	4.52	13159
■ D 7	24 M red	6.05	13160
■ D 8	24 M red	7.60	13161

 Sizes	Recommended strainer	Nozzle order no.
■ C 13	50 M blue	13147
■ C 23	24 M red	13148
■ C 25	24 M red	13149
■ C 45	24 M red	13150

Specifications			
	Spray angle 45° – 95°		Optimum spray height 65 – 90 cm
	Pressure range 2 – 5 bar	Typical application 	

Features

- Extremely resistant to clogging
- Uniform and fine droplets
- Extremely wear-resistant
- Very suitable for insecticide / fungicide applications

For application rate formulas, see page 71.

Application rate l/min at 3 bar	Spray angle at 3 bar	Combining options	Required strainer
0.32	65°	D 2 – C 13	50 M blue
0.36	70°	D 3 – C 13	50 M blue
0.39	70°	D 2 – C 23	50 M blue
0.47	70°	D 3 – C 23	50 M blue
0.47	80°	D 4 – C 13	50 M blue
0.59	80°	D 4 – C 23	50 M blue
0.63	50°	D 2 – C 25	50 M blue
0.71	90°	D 5 – C 23	50 M blue
0.75	60°	D 3 – C 25	50 M blue
0.80	45°	D 2 – C 45	50 M blue
0.83	90°	D 6 – C 23	50 M blue
0.91	55°	D 3 – C 45	50 M blue
1.14	75°	D 4 – C 25	24 M red
1.38	80°	D 5 – C 25	24 M red
1.42	70°	D 4 – C 45	24 M red
1.74	85°	D 6 – C 25	24 M red
1.78	75°	D 5 – C 45	24 M red
2.05	90°	D 7 – C 25	24 M red
2.29	80°	D 6 – C 45	24 M red
2.41	95°	D 8 – C 25	24 M red
2.68	85°	D 7 – C 45	24 M red
3.32	90°	D 8 – C 45	24 M red

Nozzles



AN – 1/2 M

Low-pressure wide-angle deflector nozzle for water and high-volume liquid fertilizers plastic, G 1/2" male thread

Nozzle type	Nozzle order no.	Colour	Flow rate l/min at pressure (bar)				
			0.5	1.0	1.5	2.0	3.0
AN 20 – 1/2 M	16587	yellow	6	8	10	11	14
AN 40 – 1/2 M	16588	red	11	16	20	22	28
AN 60 – 1/2 M	13038	white	17	24	29	34	42
AN 90 – 1/2 M	13039	black	25	36	44	51	62
AN 210 – 3/4 NPT	17351	grey	68	96	115	135	166

Inquire for further sizes.



Specifications



Spray angle

100° – 140°
depending on selected pressure



Pressure range

0.5 – 3 bar

Typical application



Features

- Robust plastic deflector nozzle
- Large diameters minimize clogging
- Very coarse droplets
- Wide distribution
- Very low pressures, very low spray heights

For application rate formulas, see page 71.

Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Hose drop applicators

Features

- Easy attachment to the boom at 50cm spacings
- Slim and streamlined design minimizes tractive resistance
- Wide-angle flat fan DT tip
- Coil spring joint and extremely flexible hose prevent damage
- No-drip valve cuts off dripping on headlands
- 90cm total length makes the hose also suitable for large spray widths
- Hose drops should immerse at least 30cm into the crop canopy
- Only at excessive forward speeds, the nozzles tend to emerge and spray the upper parts of the plants, potentially causing chemical burns



Hose drop application rates

Type colour	Strainer	Pressure (bar)	l/min	Application rate (l/ha) at a specific forward speed (km/h)					
				5	6	7	8	9	10
DT 1.0 yellow	50 M blue	1.0	0.34	82	68	58	51	45	41
		1.5	0.44	106	88	75	66	59	53
		2.0	0.53	127	106	91	80	71	64
		2.5	0.60	144	120	103	90	80	72
DT 1.5 blue	50 M blue	1.0	0.51	122	102	87	77	68	61
		1.5	0.66	158	132	113	99	88	79
		2.0	0.80	192	160	137	120	107	96
		2.5	0.90	216	180	154	135	120	108
DT 2.0 red	50 M blue	1.0	0.68	163	136	117	102	91	82
		1.5	0.88	211	176	151	132	117	106
		2.0	1.06	254	212	182	159	141	127
		2.5	1.20	288	240	206	180	160	144
DT 2.5 brown	24 M red	1.0	0.85	204	170	146	128	113	102
		1.5	1.10	264	220	189	165	147	132
		2.0	1.33	319	266	228	200	177	160
		2.5	1.50	360	300	257	225	200	180
DT 3.0 grey	24 M red	1.0	1.02	245	204	175	153	136	122
		1.5	1.32	317	264	226	198	176	158
		2.0	1.60	384	320	274	240	213	192
		2.5	1.80	432	360	309	270	240	216
DT 4.0 white	24 M red	1.0	1.36	326	272	233	204	181	163
		1.5	1.76	422	352	302	264	235	211
		2.0	2.12	509	424	363	318	283	254
		2.5	2.40	576	480	411	360	320	288
DT 5.0 light blue	N.A.	1.0	1.70	408	340	291	255	227	204
		1.5	2.20	528	440	377	330	293	264
		2.0	2.66	638	532	456	399	355	319
		2.5	3.00	720	600	514	450	400	360

Typical application



All rates apply to hose drops with standard no-drip valves and to UAN liquid fertilizer applied at 1.30kg/l and 10 °C. The pressure is measured on the inlet of the hose. Ensure to verify these rates with a measuring jug before starting the application.

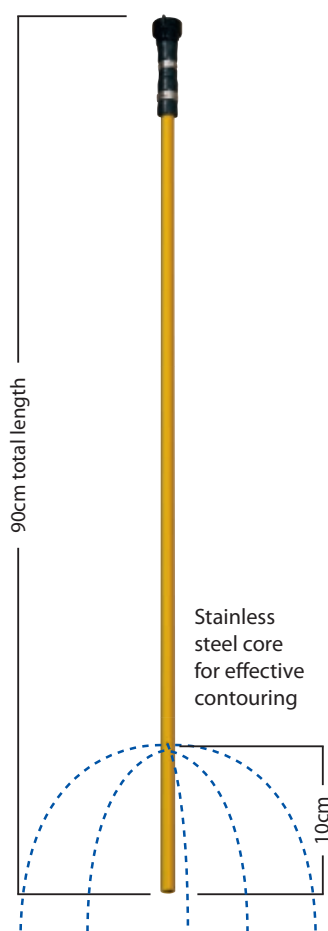
Order no. 13053 for regular systems (standard bayonet)
 Order no. 13057 for Amazone systems (approx. up to year of construction 2002), Holder
 Order no. 13061 for Hardi systems (without seal, use original Hardi strainers – order no. 12948)
 Order no. 13056 for Rau systems

Order no. 16444 for regular systems (standard bayonet) complete with DT 1.0
 Order no. 16445 for regular systems (standard bayonet) complete with DT 2.0
 Order no. 16446 for regular systems (standard bayonet) complete with DT 2.5
 Order no. 16447 for regular systems (standard bayonet) complete with DT 3.0
 Order no. 16448 for regular systems (standard bayonet) complete with DT 4.0

Five-stream hose drop

Features

- Very slim hose reduces tractive resistance
- Produces five solid streams, directing two streams to the sides and forward and one stream down and forward
- The ideal orientation of the jet streams and the extremely large droplets combine to minimize the risk of burns
- Very flexible hose joint and hose prevent damage
- Easy attachment to the boom at 50cm spacings
- Stainless steel core at the lower end ensures effective contouring
- 90cm total length also suits large working widths
- 5-stream hose drops, too, must immerse at least 30cm into the crop canopy



Application rates for five-stream hose drop

Metering disc	Pressure (bar)	l/min	Application rate (l/ha) at a specific forward speed (km/h)					
			5	6	7	8	9	10
■ D 2 brown	1.0	0.57	136	113	97	85	75	68
	1.5	0.64	155	129	110	97	86	77
	2.0	0.71	171	143	122	107	95	86
	2.5	0.76	182	151	130	114	101	91
	3.0	0.80	192	160	137	120	107	96
■ D 3 orange	1.0	0.68	163	136	116	102	90	81
	1.5	0.78	188	157	134	117	104	94
	2.0	0.84	203	169	145	127	113	101
	2.5	0.91	219	183	157	137	122	110
	3.0	0.98	236	197	169	147	131	118
■ D 4 red	1.0	1.13	271	226	194	170	151	136
	1.5	1.31	313	261	224	196	174	157
	2.0	1.56	374	311	267	234	208	187
	2.5	1.65	397	331	283	248	220	198
	3.0	1.81	434	362	310	271	241	217
■ D 5 blue	1.0	1.83	438	365	313	274	244	219
	1.5	2.18	524	437	374	328	291	262
	2.0	2.48	595	496	425	372	331	298
	2.5	2.68	643	536	459	402	357	322
	3.0	2.87	689	574	492	431	383	345
■ D 6 yellow	1.0	2.29	549	458	392	343	305	275
	1.5	2.76	662	552	473	414	368	331
	2.0	3.18	762	635	544	476	423	381
	2.5	3.46	831	693	594	519	462	416
	3.0	3.78	906	755	647	566	503	453

Typical application

UAN

All rates refer to UAN with a 1.30kg/l density at 10 °C and 50cm hose spacings. The pressure is measured on the metering disc. Ensure to verify the specific result before starting the application.

- Order no. 13043 for regular systems (standard bayonet)
- Order no. 13048 for regular systems (standard bayonet), flexible version
- Order no. 13045 for Amazone systems (approx. up to year of construction 2002), Holder
- Order no. 13046 for Hardi systems (no seals: use original Hardi strainers – order no. 12948)

Order no. 13044 for Rau systems

D3 and D4 are included in the delivery. For further metering discs, see page 43. Install the hose drop with the orifice facing forward in direction of travel.

Inquire about further bayonet systems.

Side-shift adapter kit

For 75cm row spacings

Hose drops are suitable for booms with 50cm nozzle spacings and applications between maize rows spaced 75cm. For these applications, individual nozzles are blind capped, others are shifted sideways depending on the trackwidth (see illustration).

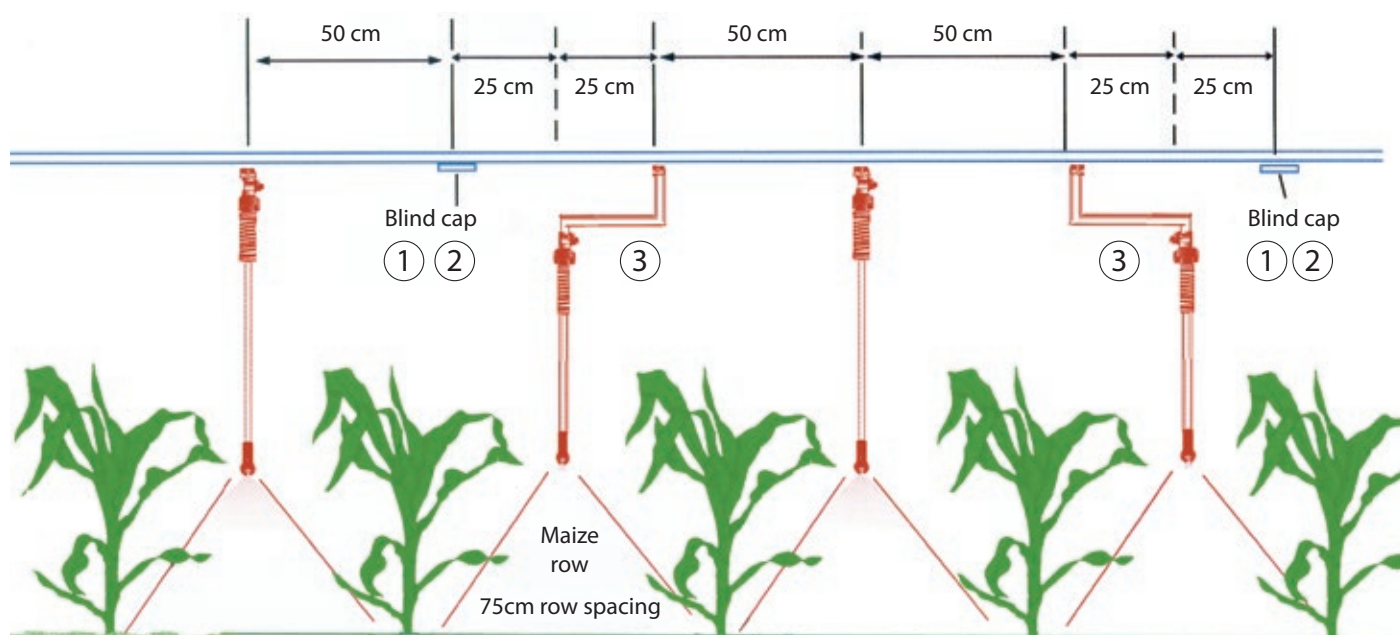


Illustration: Side-shift adapter kit for 1.5m trackwidth configurations.

The kit comprises the following elements:

- ① Order no. 12904 Blind cap (standard bayonet)
- ② Order no. 14457 Blind cap seal
- ③ Order no. 15174 Set of 25-50cm side-shift adapters (standard)

Inquire for further side-shift adapter kits.

Side-shift adapter kit for Amazone no. 17087.

Formulas for determining the number of hose drops at 75cm row spacings

1.5m trackwidth

2 maize rows between two trackwidths

$$\text{Number of hose drops} = \frac{\text{Number of nozzles}}{3}$$

$$\text{No. of hose drops c/w side-shift adapter kit} = \frac{\text{Number of nozzles}}{3} + 1$$

$$\text{No. of blind caps} = \frac{\text{Number of nozzles}}{3} - 1$$

2.25m trackwidth

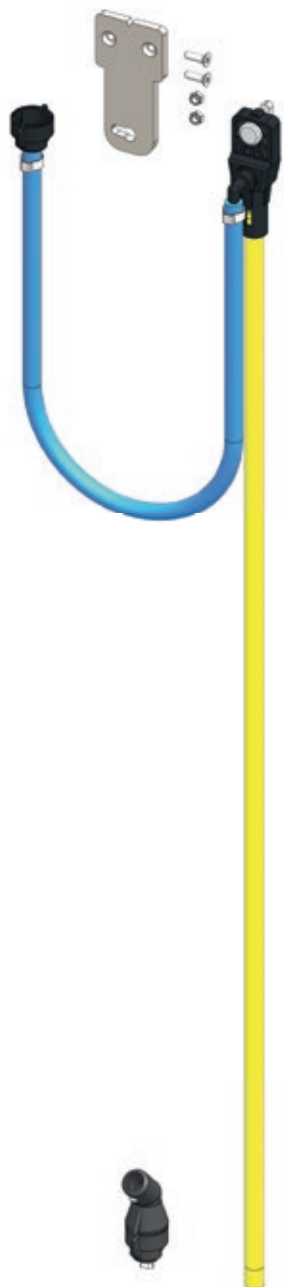
3 maize rows between two trackwidths

$$\text{Hose drops with side-shift adapter kit} = \frac{\text{Number of nozzles}}{3} \times 2$$

$$\text{No. of blind caps} = \frac{\text{Number of nozzles}}{3}$$

Side-shifting hose drop

Flexible hose drop with deflector nozzle, 90cm length



Specifications



Pressure range
1 – 2.5 bar

Typical application



Features

- Easy installation without tools
- Supplied with side-shift hose for flexible row spacings
- Hose drop with wide-angle DT nozzle
- No-drip valve cuts off dripping on headlands
- 90cm total length makes the hose also suitable for large spray widths
- Very flexible hose sways freely for gentle crop treatment
- Swivel design minimizes space requirement when folding the boom into transport position
- Optional Dropleg® Beluga nozzle body is a retrofit item for the leg (see page 52 for further information)

Hose drop application rates

Type colour	Strainer	Pressure (bar)	l/min	Application rate (l/ha) at a specific forward speed (km/h)					
				5	6	7	8	9	10
DT 1.0 yellow	50 M blue	1.0	0.40	96	80	69	60	53	48
		1.5	0.45	130	108	93	81	72	65
		2.0	0.64	154	128	110	96	85	77
		2.5	0.71	170	142	122	107	95	85
DT 2.0 red	50 M blue	1.0	0.83	199	166	142	124	111	100
		1.5	1.04	250	208	178	156	139	125
		2.0	1.22	293	244	209	183	163	146
		2.5	1.36	326	272	233	204	181	163
DT 4.0 white	24 M red	1.0	1.48	355	296	254	222	197	178
		1.5	1.90	456	380	326	285	253	228
		2.0	2.22	533	444	381	333	296	266
		2.5	2.52	605	504	432	378	336	302

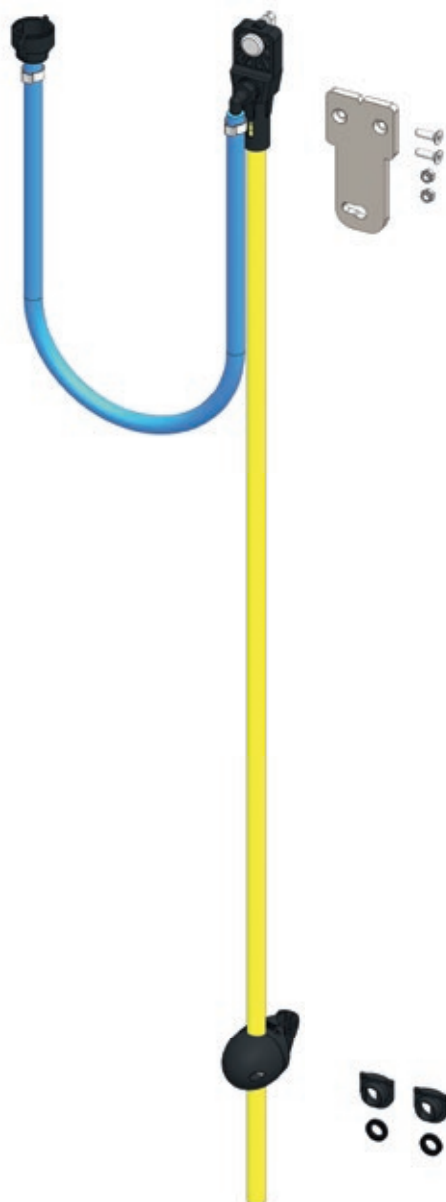
All rates refer to 50cm hose spacings and 20° water temperature; pressures are measured on the nozzle; ± 5% tolerance.

Ensure to verify the rates with a measuring jug before starting the application.

Order no. 17118	Standard system (standard bayonet) complete with DT 1.0
Order no. 17119	Standard system (standard bayonet) complete with DT 2.0
Order no. 17120	Standard system (standard bayonet) complete with DT 4.0

Dropleg® Beluga Standard

Flexible, 90cm long hose drop
for row spraying in the crop stand



Specifications



Pressure range
1 – 6 bar

Typical application



Features

- Immersed application improves efficacy and drift control
- Improves bee protection by treating target areas only
- No-drip valve cuts off dripping on headlands
- Easy installation without tools
- Variable flow rates depending on nozzles fitted
- Very flexible hose sways freely for gentle crop treatment
- Low-weight design (approx. 250g) minimizes boom loads
- Swivel design minimizes space requirement when folding the boom into transport position

For application rates, see the table on page 68.

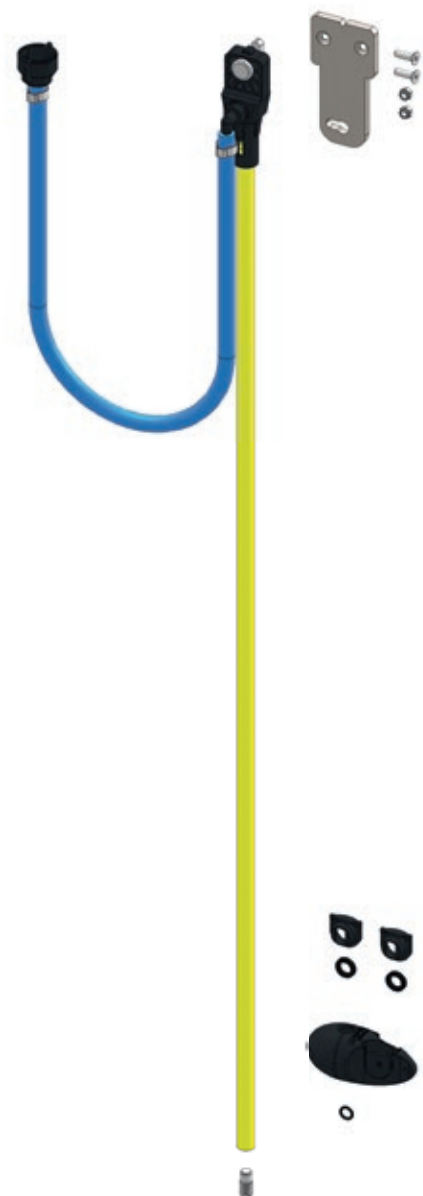
Order no. 16820

Dropleg® Beluga Standard with no-drip valve
(nozzles not included;
order numbers 16716, 16717, 16815 included)

(see page 52 – Dropleg® Accessories and Parts)

Dropleg® Beluga L/XL kit

Flexible hose drop
for attachment to individual requirements



Specifications



Pressure range
depending on
configuration

Typical application



Features

- You can cut the hose to length (available in L (90cm) or XL (180cm) original lengths)
- The Dropleg® Beluga nozzle body attaches to the hose at any height from the ground. You can fit up to 3 additional bodies.
- An optional 45° body for the wide-angle DT nozzle is available for installing to the lower end
- For further accessories for bespoke configurations, see page 52

Application rates vary by configuration.

Ensure to verify the rates with a measuring jug before starting the application.

- | | |
|-----------------|---|
| Order no. 17194 | Dropleg® Beluga L kit with no-drip valve
(nozzles not included;
order numbers 16716, 16717, 16815 included) |
| Order no. 17111 | Dropleg® Beluga L kit with no-drip valve
(nozzles not included;
order numbers 16716, 16717, 16815 included) |

(See page 52 – Dropleg® Accessories and Parts)

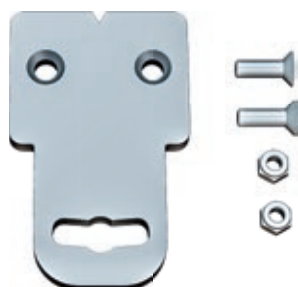
Dropleg® Accessories and Parts



Dropleg® Beluga nozzle body

Order no. 16717

Dropleg® Beluga nozzle bodies with no-drip valve
(sliders to be ordered separately)



Attachment elements

Order no. 16716

Dropleg® Beluga attachment elements



45° nozzle body for Dropleg®

Oder no. 17209

45° nozzle body for side-shift hose drop incl.
bayonet cap with no-drip valve and gasket
for extending wide-angle DT nozzles for hose drop
application (see page 49).

Order no. 12904

Blind cap for the 45° body
for Dropleg®



Assorted sliders

Order no. 16816

11mm SW slider c/w 2 seals

Order no. 16815

8mm SW slider c/w 2 seals

Order no. 16817

Round orifice slider c/w 2 seals
for fitting the DC hollow cone spray nozzle

Order no. 16818

Shutter c/w 2 seals
for closing one or both sides of the body

Nozzle strainers and ball check valve strainers

ISO 19732-2007
colour coding

F strainers

Mesh	Colour	Order no.
24 M	red	16608
50 M	blue	16609
100 M	green	16610
200 M	pink	16611

Ball check valve strainers

Mesh size	Colour Bottom/top	Opening pressure	Order no.
24 M	red/white	0.3 bar	16150
50 M	blue/white	0.3 bar	16137
100 M	green/white	0.3 bar	16146
200 M	light pink/white	0.3 bar	16145

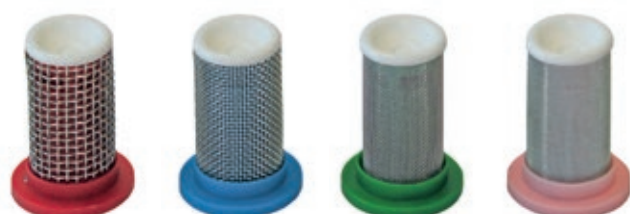
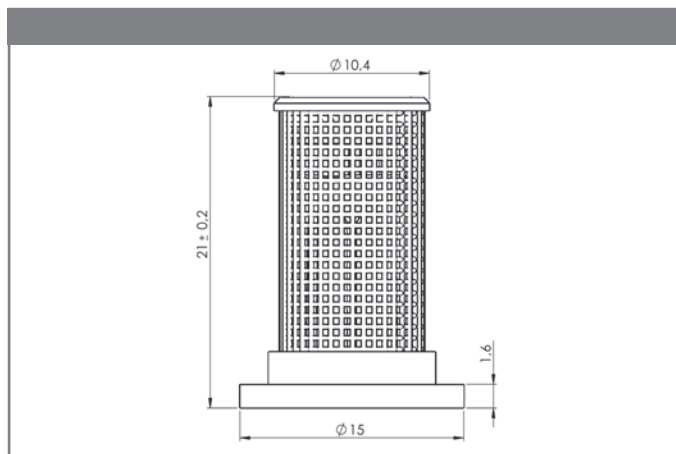
Inquire for 0.7 bar and 2.8 bar opening pressures

Bowler hat strainers

Mesh	Colour	Order no.
32 M stainless steel	red	12935
50 M stainless steel	blue	12936
80 M stainless steel	yellow	12937
100 M stainless steel	green	12938

Grooved strainers (plastic)

Mesh	Colour	Order no.
approx. 24 M	black	12943
approx. 50 M	blue	12949

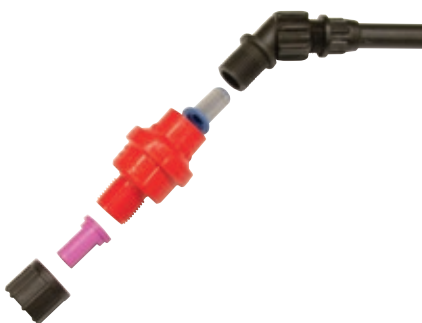


CF Constant Pressure Valve

Automatic constant pressure valve for nozzles and spray lines for up to 2l/min flow rates



Easy installation into existing spray pipes



The strainer is installed upstream of the CF valve

Valve type Pressure (bar)	Flow rate (l/min) by ISO nozzle size						
	-01 Orange	-015 Green	-02 Yellow	-03 Blue	-04 Red	-05 Brown	-06 Grey
Yellow 1.0	0.230	0.345	0.460	0.690	0.920	1.150	1.380
Red 1.5	0.280	0.420	0.560	0.835	1.110	1.390	1.670
Blue 2.0	0.325	0.490	0.650	0.980	1.305	1.630	–
Green 3.0	0.400	0.600	0.800	1.200	1.600	–	–



CF valve with hose nipple

Features

- Maintains the pressure between the nozzle and the CF valve
- Ideal for maintaining flow rates and droplet sizes on knapsack sprayers
- Ideal for use on small booms (e.g. on parallel sprayers) to cut out the pulses from pump to nozzles
- Also suitable for installation in spray lines; switching several CF valves in parallel increases flow rates
- The CF valve equalizes pressures automatically, for example in parallel spraying after some nozzles are shut off



A fully assembled valve

Technical data

- Opening pressure = default operating pressure
- Flow rate tolerance: approx. $\pm 1.5\%$
- Max. flow rate per valve: 2 litres/min
- Max. inlet pressure: 7 bar
- Threads: Female inlet, Male outlet, G 3/8" or M 18 x 1.5
- Pre-strainer mesh size: 50 M or smaller
- Material: POM housing, POM / stainless steel internal parts, Viton® diaphragm (inquire for EPDM)
- Length: 5 cm
- Diameter: 3.3 cm
- Weight: 19 g

CF Valve

Order no.	Operating pressure	Thread size
15119	1.0 bar, yellow	G 3/8"
15118	1.0 bar, yellow	M 18 x 1.5
15124	1.5 bar, red	G 3/8"
15123	1.5 bar, red	M 18 x 1.5
15126	2.0 bar, blue	G 3/8"
15125	2.0 bar, blue	M 18 x 1.5
15128	3.0 bar, green	G 3/8"
15127	3.0 bar, green	M 18 x 1.5

Adapter parts for M11 x 1 threads

- Order no. 15104 Brass adapter (for F 50 M strainer), female thread
- Order no. 10735 Cap nut G 3/8"
- Oder no. 13525 Adapter bolt M11 x 1, male thread

Bayonet Caps and Nozzle Bodies

Bayonet caps for standard bayonet system



Order no.	Size	Cap type	Suitable nozzles
12856	■ -01	8 mm 	 SprayMax  Albuz® AXI
12858	■ -015		
12860	■ -02		 AirMix®  Albuz® CVI
12863	■ -025		
12865	■ -03		
12868	■ -04		
12870	■ -05		
12872	■ -06		
12874	■ -08		
16597	■ -10		
12876	■ -20		



Order no.	Size	Cap type	Suitable nozzles
16721	■ -01	11 mm 	 Albuz® APE  Albuz® AVI
16722	■ -015		
16723	■ -02		 Albuz® EXA/ESI
16724	■ -025		
16725	■ -03		
16726	■ -04		
16727	■ -05		
16728	■ -06		
16729	■ -08		
16730	■ -10		
12897	■ -20		



Order no.	Cap type	Suitable nozzles
12900	Round orifice, black	 DT  DC
12902	Round orifice, black	OC / HCX / FCX
12903	ATR, black	 Albuz® ATR  Albuz® TVI
15129	O-ring for the assembly	

See page 58 for suitable sealing rings.



Order no.	Cap type	Suitable nozzles
17195	Bayonet cap, 8mm, for 7° - 45° angles, black	RowFan®
12904	Blind cap, black	for shut-off nozzle bodies
12816	1/4", black	1/4" NPT female thread
12817	1/8", black	1/8" NPT female thread
12822	Double flat fan cap	SprayMax Albuz® AXI AirMix® Albuz® CVI
12823	Double flat fan cap for RAU	SprayMax Albuz® AXI AirMix® Albuz® CVI
16862	TipGuard Standard, black, cap with protective cylinder	AirMix® Albuz® CVI

See page 58 for suitable sealing rings.

Order no. 15111 Extension for standard bayonet
mounts the nozzles in a lower position on the boom to protect the sprayer from spray, for example.

Order no. 16122 Bayonet adapter
The adapter converts all threaded nuts and custom bayonet systems to a standard bayonet. Install it by following the instructions on TurboDrop® Uni Clip. Also available as fully assembled units.

Accessories



Cap nuts

Order no.	
10735	G 3/8", plastic, black
10736	G 3/8", plastic, red
15083	G 3/8", brass, nickel-plated
15096	11/16", brass



ADF slider system



SprayMax ADF



AirMix® ADF



TurboDrop® ADF

ADF Cap

**Asymmetric double flat fan cap
made from hard-wearing plastic POM**

The ADF double flat fan cap is useful for an asymmetric arrangement of nozzle tips and allows you to combine various nozzle types, sizes and spray angles for optimum results also in special crops and low-volume applications. A slider mechanism secures the nozzle inside the cap for easy swapping and without dismantling the entire cap.

Specifications

- Short, compact construction made from hard-wearing plastic POM
- Slimmer than comparable double flat fan caps
- Slider for easy nozzle attachment, easy cleaning
- 10° and 50° spray angles
- Combines with plastic or ceramic TurboDrop® venturi injectors
- For nozzle bodies with standard bayonet

Order no. 12824 ADF cap for AirMix® and SprayMax nozzles

Sealing rings



Order no.	
14457	Standard sealing ring, 3mm, grey
14461	Seal, thin 2.8mm ring, flexible fit, black
14969	Seal, thick 3.4mm ring, tight fit, black; also suitable for 12816 and 12817 caps
14460	Seal, 1mm
14456	Bespoke sealing ring for fitting AVI and CVI nozzles with cap nuts
15129	O-ring for fitting ATR and TVI nozzles with 12903 cap
14465	Gasket 15 x 11 x 2 mm

Threaded Nozzle Bodies



Order no.	E	A	Bar	M
15104	M11x1 i	G 3/8" a	50	B
15102	G 1/4" a	G 3/8" a	50	B
15103	G 1/4" i	11/16" a	50	B
12812	G 1/4" a	11/16" a	50	B
15105	G 1/4" i	G 3/8" a	50	B
12663	G 1/8" a	G 3/8" a	50	B
12815	Ø 6 mm	G 3/8" a	10	P



Order no.	E	A	Bar	M
12680	G 1/4" a	SB	20	P
12681	G 1/4" NPT i	SB	20	P
12682	G 3/8" i	SB	20	P
12685	G 1/2" i	SB	20	P
12686	G 3/4" i	SB	20	P
12683	M18x1.5 i	SB	20	P
12684	M20x1.5 i	SB	20	P



Single-nozzle pivoting body

Order no.	E	A	Bar	M
12732	G 1/4" i	SB	10	P
12735	G 3/8" i	SB	10	P
12731	G 1/4" i	G 3/8" a	10	P
12734	G 3/8" i	G 3/8" a	10	P
12665	G 1/4" a	G 3/8" a	15	B/P



Dual-nozzle pivoting body

Order no.	E	A	Bar	M
12737	G 1/4" i	SB	10	P
12740	G 3/8" i	SB	10	P
12736	G 1/4" i	G 3/8" a	10	P
12739	G 3/8" i	G 3/8" a	10	P
12666	G 1/4" a	G 3/8" a	15	B/P

A = Outlet thread
Bar = Maximum pressure (bar)
E = Inlet thread
M = Material

SB = Standard bayonet

i = female thread a = male thread
 P = Plastic B = Brass

Inquire for further
nozzle bodies.

QuickFit

Tip / bayonet cap assemblies
for field sprayers



Pack of 25
assemblies

AirMix Flat Fan

Sizes	Order no.
110-01	15136
110-015	15137
110-02	15139
110-025	15141
110-03	15143
110-04	15145
110-05	15147
110-06	15149

AVI-TWIN

Sizes	Order no.
110-01	15153
110-015	15151
110-02	15156
110-025	15154
110-03	15159
110-04	15161
110-05	15163
110-06	15165

The box contains 25 ready-to-install assemblies of tips and standard bayonet caps including seals. Suitable for all major nozzle models.

Features

- Ready to install. Fully assembled. No small parts.
- No testing
- Convenient storage
- No extra cost

Blister packaging



Blister pack of 25 assemblies AirMix Flat Fan

Sizes	Order no.
110-02	15891
110-025	16063
110-03	15892
110-04	16064
110-05	15720

AirMix OC

Sizes	Order no.
80-02	17066
80-025	17067
80-03	17068
80-04	17069
80-05	17070

Features

- Application rates are indicated on the back of the package
- Practical package sizes
- Appealing design



Pack of 100 assemblies

Blister pack of 100 AirMix Flat Fan

Sizes	Order no.
110-01	14309
110-015	14311
110-02	14313
110-025	14315
110-03	14317
110-04	14319
110-05	14322
110-06	14324
80-02	17222
80-025	17372

AirMix OC

Sizes	Order no.
80-02	14290
80-025	14292
80-03	14294
80-04	14296
80-05	14298

AirMix HC

Sizes	Order no.
80-01	17187
80-015	17312
80-025	14286

BPDP PWM

Sizes	Order no.
1.5	17323
2	17179
3	17089
4	17090
5	17091
6	17092

Universal table for field sprayer booms and 50cm nozzle spacings

Nozzle sizes and colour coding to ISO 10625 and analogue

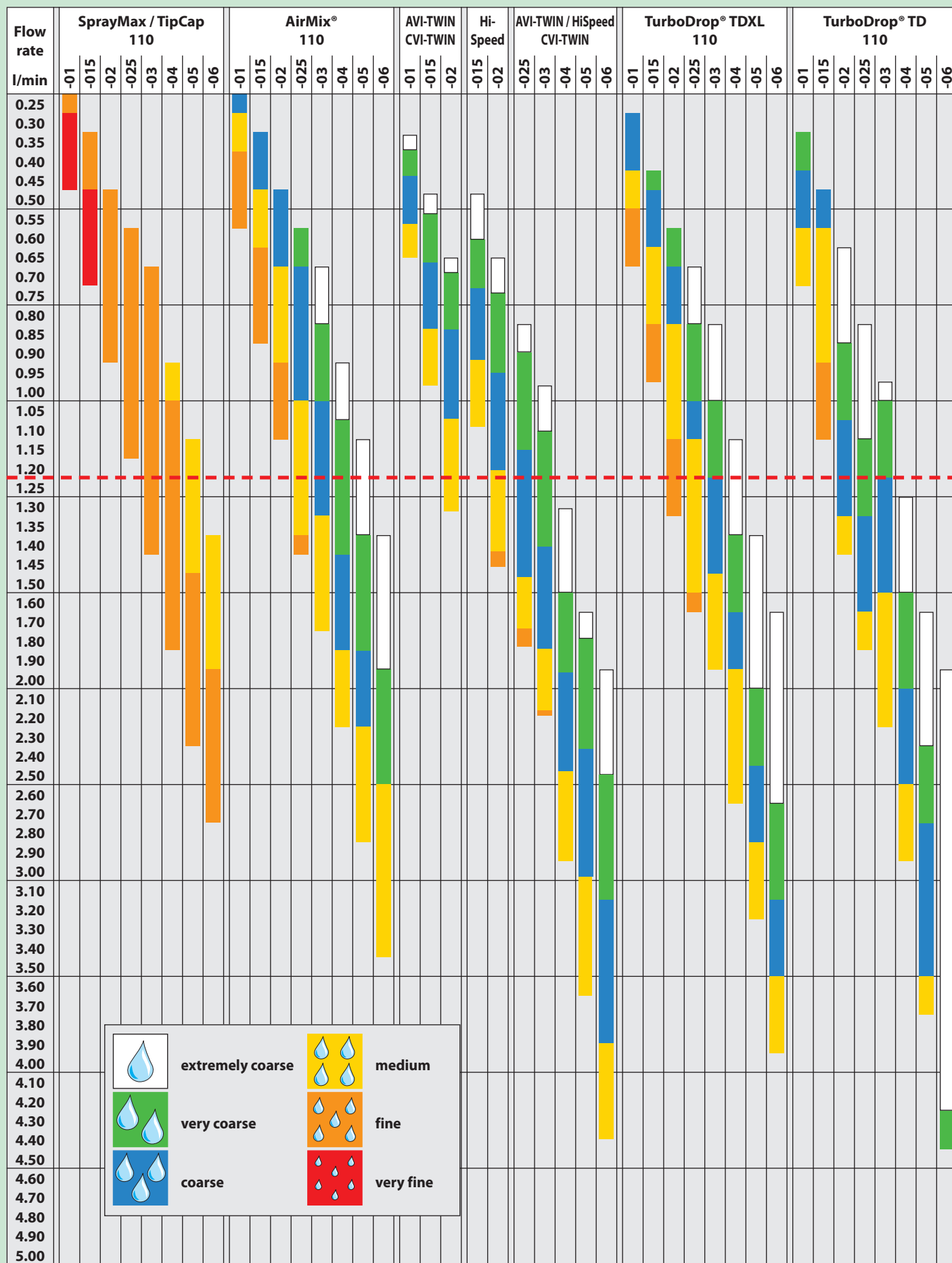
Water volume (l/ha)										Nozzle output (l/min)	Nozzle size									
100	125	150	175	200	225	250	300	400	500		-01	-015	-02	-025	-03	-04	-05	-06	-08	-10
4.8	4.8									0.25	1.2									
										0.30	1.7									
										0.35	2.3	1.0								
										0.40	3.0	1.3								
										0.45	3.8	1.7								
										0.50	4.7	2.1	1.2							
6.6	5.3									0.55	5.7	2.5	1.4							
7.2	5.8	4.8								0.60	6.7	3.0	1.7	1.1						
7.8	6.2	5.2								0.65	7.9	3.5	2.0	1.3						
8.4	6.7	5.6	4.8							0.70	9.2	4.1	2.3	1.5	1.0					
9.0	7.2	6.0	5.1							0.75		4.7	2.6	1.7	1.2					
9.6	7.7	6.4	5.5	4.8						0.80		5.3	3.0	1.9	1.3					
10.2	8.2	6.8	5.8	5.1						0.85		6.0	3.4	2.2	1.5					
10.8	8.6	7.2	6.2	5.4	4.8					0.90		6.8	3.8	2.4	1.7					
11.4	9.1	7.6	6.5	5.7	5.1					0.95		7.5	4.2	2.7	1.9	1.1				
12.0	9.6	8.0	6.9	6.0	5.3	4.8				1.00		8.4	4.7	3.0	2.1	1.2				
12.6	10.1	8.4	7.2	6.3	5.6	5.0				1.05		9.2	5.2	3.3	2.3	1.3				
13.2	10.6	8.8	7.5	6.6	5.9	5.3				1.10		10.1	5.7	3.6	2.5	1.4				
13.8	11.0	9.2	7.9	6.9	6.1	5.5				1.15			6.2	4.0	2.8	1.5	1.0			
14.4	11.5	9.6	8.2	7.2	6.4	5.8	4.8			1.20			6.7	4.3	3.0	1.7	1.1			
15.0	12.0	10.0	8.6	7.5	6.7	6.0	5.0			1.25			7.3	4.7	3.3	1.8	1.2			
15.6	12.5	10.4	8.9	7.8	6.9	6.2	5.2			1.30			7.9	5.1	3.5	2.0	1.3			
16.2	13.0	10.8	9.3	8.1	7.2	6.5	5.4			1.35			8.5	5.5	3.8	2.1	1.4			
16.8	13.4	11.2	9.6	8.4	7.5	6.7	5.6			1.40			9.2	5.9	4.1	2.3	1.5	1.0		
17.4	13.9	11.6	9.9	8.7	7.7	7.0	5.8			1.45				6.3	4.4	2.5	1.6	1.1		
18.0	14.4	12.0	10.3	9.0	8.0	7.2	6.0			1.50				6.8	4.7	2.6	1.7	1.2		
19.2	15.4	12.8	11.0	9.6	8.5	7.7	6.4	4.8		1.60				7.7	5.3	3.0	1.9	1.3		
20.4	16.3	13.6	11.7	10.2	9.1	8.2	6.8	5.1		1.70				8.7	6.0	3.4	2.2	1.5		
21.6	17.3	14.4	12.3	10.8	9.6	8.6	7.2	5.4		1.80				9.7	6.7	3.8	2.4	1.7	1.0	
22.8	18.2	15.2	13.0	11.4	10.1	9.1	7.6	5.7		1.90					7.5	4.2	2.7	1.9	1.1	
24.0	19.2	16.0	13.7	12.0	10.7	9.6	8.0	6.0	4.8	2.00					8.3	4.7	3.0	2.1	1.2	
	20.2	16.8	14.4	12.6	11.2	10.1	8.4	6.3	5.0	2.10					9.2	5.2	3.3	2.3	1.3	
	21.1	17.6	15.1	13.2	11.7	10.6	8.8	6.6	5.3	2.20					10.1	5.7	3.6	2.5	1.4	
	22.1	18.4	15.8	13.8	12.3	11.0	9.2	6.9	5.5	2.30						6.2	4.0	2.8	1.6	1.0
	23.0	19.2	16.5	14.4	12.8	11.5	9.6	7.2	5.8	2.40						6.7	4.3	3.0	1.7	1.1
	24.0	20.0	17.1	15.0	13.3	12.0	10.0	7.5	6.0	2.50						7.3	4.7	3.3	1.8	1.2
		20.8	17.8	15.6	13.9	12.5	10.4	7.8	6.2	2.60						7.9	5.1	3.5	2.0	1.3
		21.6	18.5	16.2	14.4	13.0	10.8	8.1	6.5	2.70						8.5	5.5	3.8	2.1	1.4
		22.4	19.2	16.8	14.9	13.4	11.2	8.4	6.7	2.80						9.2	5.9	4.1	2.3	1.5
		23.2	19.9	17.4	15.5	13.9	11.6	8.7	7.0	2.90						9.9	6.3	4.4	2.5	1.6
		24.0	20.6	18.0	16.0	14.4	12.0	9.0	7.2	3.00							6.7	4.7	2.6	1.7
			21.3	18.6	16.5	14.9	12.4	9.3	7.4	3.10							7.2	5.0	2.8	1.8
			21.9	19.2	17.1	15.4	12.8	9.6	7.7	3.20							7.7	5.3	3.0	1.9
			22.6	19.8	17.6	15.8	13.2	9.9	7.9	3.30							8.2	5.7	3.2	2.0
			23.3	20.4	18.1	16.3	13.6	10.2	8.2	3.40							8.7	6.0	3.4	2.2
			24.0	21.0	18.7	16.8	14.0	10.5	8.4	3.50							9.2	6.4	3.6	2.3
				21.6	19.2	17.3	14.4	10.8	8.6	3.60							9.7	6.7	3.8	2.4
				22.2	19.7	17.8	14.8	11.1	8.9	3.70							10.3	7.1	4.0	2.6
				22.8	20.3	18.2	15.2	11.4	9.1	3.80								7.5	4.2	2.7
				23.4	20.8	18.7	15.6	11.7	9.4	3.90								7.9	4.5	2.9
				24.0	21.3	19.2	16.0	12.0	9.6	4.00								8.3	4.7	3.0
					21.9	19.7	16.4	12.3	9.8	4.10								8.8	4.9	3.2
					22.4	20.2	16.8	12.6	10.1	4.20								9.2	5.2	3.3
					22.9	20.6	17.2	12.9	10.3	4.30								9.6	5.4	3.5
					23.5	21.1	17.6	13.2	10.6	4.40								10.1	5.7	3.6
					24.0	21.6	18.0	13.5	10.8	4.50									5.9	3.8
						22.1	18.4	13.8	11.0	4.60									6.2	4.0
						22.6	18.8	14.1	11.3	4.70									6.5	4.1
						23.0	19.2	14.4	11.5	4.80									6.8	4.3
						23.5	19.6	14.7	11.8	4.90									7.0	4.5
						24.0	20.0	15.0	12.0	5.00									7.3	4.7

The above rates refer to a water temperature of 20 °C. The pressure was measured on the nozzle tip. Ensure to verify these rates with a measuring jug before starting the application.

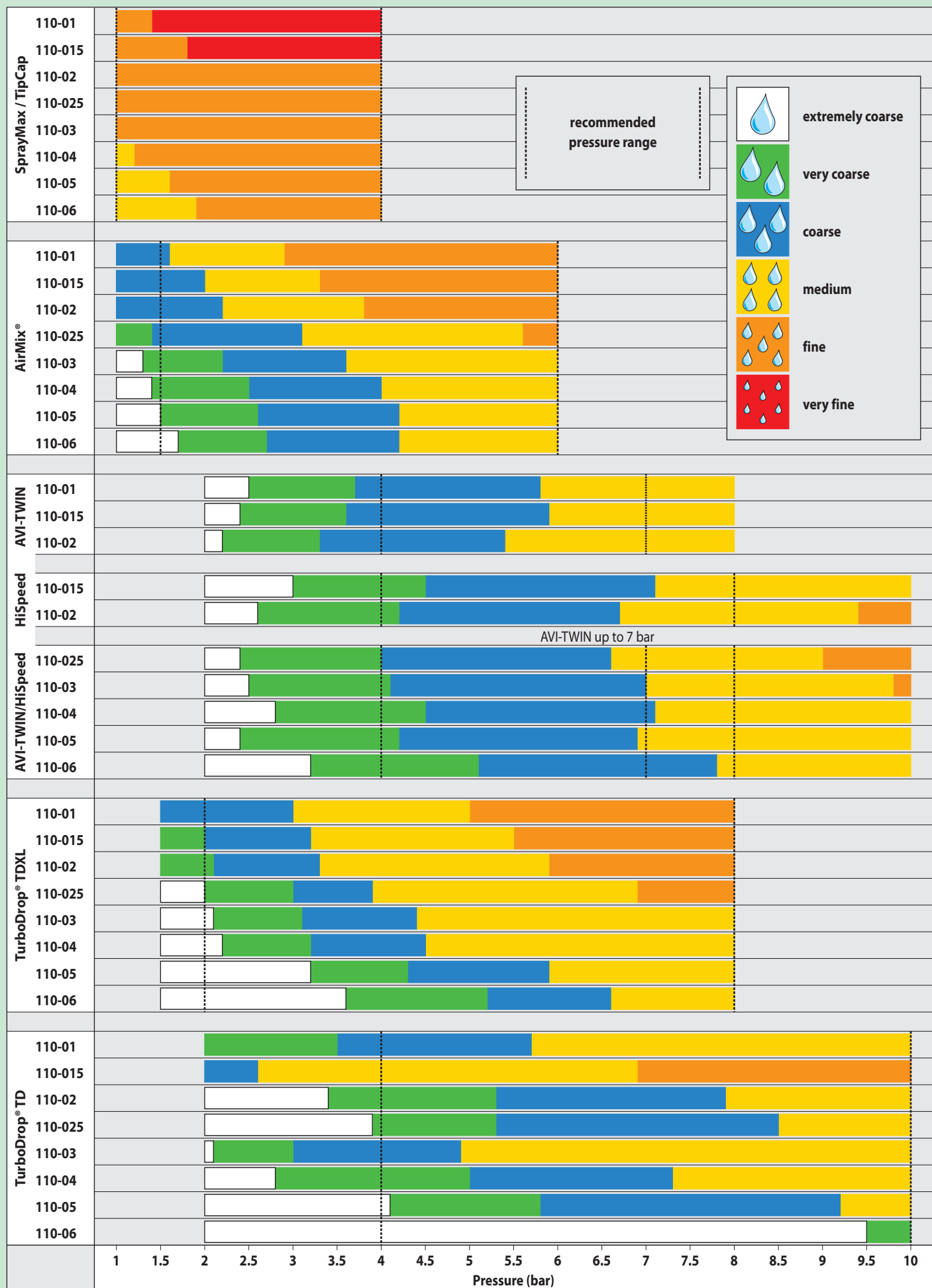
--- Example: 200 l/ha at 7.2km/h require a nozzle output of 1.20 l/min, i.e. 6.7 bar for size -02; 4.3 bar for size -025; 3.0 bar for size -03 etc.

* Legacy black now changed to light blue

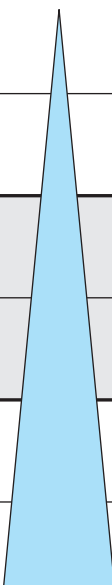
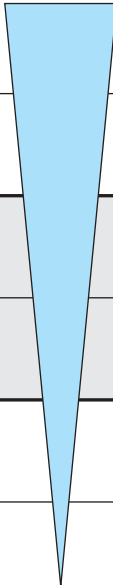
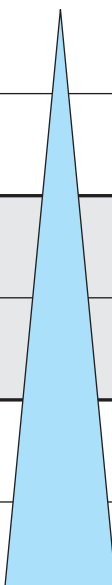
Droplet sizes and flow rates



Droplet sizes relative to pressure



Optimal application criteria by droplet size for various nozzle types on field sprayers

Droplet sizes			Venturi nozzles	Standard nozzles	Coverage potential	Penetration	Drift potential
extremely coarse	approx. +550 µm		Systemic chemicals 300 l/ha+	Not optimal			
very coarse	approx. 400–550 µm		Systemic chemicals	Not optimal			
coarse	approx. 350–400 µm		Systemic chemicals Contact pesticides (200 l/ha+)	Systemic chemicals (400 l/ha+)			
medium	approx. 250–350 µm		Systemic chemicals Contact pesticides	Systemic chemicals			
fine	approx. 150–250 µm		Drift potential	Systemic chemicals Contact pesticides – spray risk potential			
very fine	approx. –150 µm		Not recommended	Not recommended			

Droplet size classification to ASAE/BCPC.

Measurements carried out with Malvern Particle Sizer.

These criteria are based on long-term and general experiences.

Follow the recommendations of the chemical manufacturers if required by individual conditions.



extremely coarse



very coarse



coarse



medium



fine



very fine

General application rates for field sprayers and 50cm nozzle spacings

Water volume l/ha	Flow rate (l/min) per nozzle at a specific forward speed (km/h)												
	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	10.0	12.0
50	0.17	0.19	0.21	0.23	0.25	0.27	0.29	0.31	0.33	0.35	0.38	0.42	0.50
80	0.27	0.30	0.33	0.37	0.40	0.43	0.47	0.50	0.53	0.57	0.60	0.67	0.80
100	0.33	0.38	0.42	0.46	0.50	0.54	0.58	0.63	0.67	0.71	0.75	0.83	1.00
120	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	1.00	1.20
150	0.50	0.56	0.63	0.69	0.75	0.81	0.88	0.94	1.00	1.06	1.13	1.25	1.50
200	0.67	0.75	0.83	0.92	1.00	1.08	1.17	1.25	1.33	1.42	1.50	1.67	2.00
250	0.83	0.94	1.04	1.15	1.25	1.35	1.46	1.56	1.67	1.77	1.88	2.08	2.50
300	1.00	1.13	1.25	1.38	1.50	1.63	1.75	1.88	2.00	2.13	2.25	2.50	3.00
350	1.17	1.31	1.46	1.60	1.75	1.90	2.04	2.19	2.33	2.48	2.63	2.92	3.50
400	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50	2.67	2.83	3.00	3.33	4.00
450	1.50	1.69	1.88	2.06	2.25	2.44	2.63	2.81	3.00	3.19	3.38	3.75	4.50
500	1.67	1.88	2.08	2.29	2.50	2.71	2.92	3.13	3.33	3.54	3.75	4.17	5.00
600	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	5.00	6.00
700	2.33	2.63	2.92	3.21	3.50	3.79	4.08	4.38	4.67	4.96	5.25	5.83	7.00
800	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00	5.33	5.67	6.00	6.67	8.00
900	3.00	3.38	3.75	4.13	4.50	4.88	5.25	5.63	6.00	6.38	6.75	7.50	9.00
1000	3.33	3.75	4.17	4.58	5.00	5.42	5.83	6.25	6.67	7.08	7.50	8.33	10.00

The above rates refer to water at a temperature of 20 °C; the pressure was measured on the nozzle tip.

Ensure to verify these rates with a measuring jug before starting the application.

Example: - - - - -

1. Select the water volume, e.g. 250 l/ha

2. Select the forward speed, e.g. 7.0 km/h

3. Read the required flow rate: 1.46 l/min

4. Select the suitable nozzle and pressure from the table on page 66. For example, select AirMix® ISO size -04 at 2.5 bar or TurboDrop® ISO-size -025 at 6.0 bar

Flow rates per nozzle size (ISO 10625 colour coding or analogue)

Pres- sure (bar)	Flow rate (l/min) by nozzle size																
	-005	-0075	-01	-015	-02	-025	-03	-04	-05	-06	-08	* -10	** -12	-15	*** -16	**** -20	-30
1.0	0.12	0.17	0.23	0.35	0.46	0.58	0.69	0.92	1.15	1.39	1.85	2.31	2.77	3.46	3.70	4.62	6.92
1.5	0.14	0.21	0.28	0.42	0.57	0.71	0.85	1.13	1.41	1.70	2.26	2.83	3.39	4.24	4.53	5.66	8.48
2.0	0.16	0.24	0.33	0.49	0.65	0.82	0.98	1.31	1.63	1.96	2.61	3.27	3.92	4.90	5.23	6.53	9.80
2.5	0.18	0.27	0.37	0.55	0.73	0.91	1.10	1.46	1.82	2.19	2.92	3.65	4.38	5.48	5.84	7.30	10.96
3.0	0.20	0.30	0.40	0.60	0.80	1.00	1.20	1.60	2.00	2.40	3.20	4.00	4.80	6.00	6.40	8.00	12.00
3.5	0.22	0.32	0.43	0.65	0.86	1.08	1.30	1.73	2.16	2.59	3.46	4.32	5.18	6.48	6.91	8.64	12.96
4.0	0.23	0.35	0.46	0.69	0.92	1.15	1.39	1.85	2.31	2.77	3.70	4.62	5.54	6.93	7.39	9.24	13.86
5.0	0.26	0.39	0.52	0.77	1.03	1.29	1.55	2.07	2.58	3.10	4.13	5.16	6.19	7.74	8.26	10.33	15.48
6.0	0.28	0.42	0.57	0.85	1.13	1.41	1.70	2.26	2.83	3.39	4.53	5.66	6.78	8.48	9.05	11.31	16.96
7.0	0.30	0.46	0.61	0.92	1.22	1.53	1.83	2.44	3.05	3.67	4.89	6.11	7.33	9.16	9.78	12.22	18.32
8.0	0.33	0.49	0.65	0.98	1.31	1.63	1.96	2.61	3.26	3.92	5.23	6.53	7.83	9.80	10.45	13.06	19.60
9.0	0.35	0.52	0.69	1.04	1.39	1.73	2.08	2.77	3.46	4.16	5.54	6.93	8.31	10.39	11.09	13.86	20.78
10.0	0.36	0.55	0.73	1.09	1.46	1.82	2.19	2.92	3.65	4.38	5.84	7.30	8.76	10.95	11.68	14.61	21.90
12.0	0.40	0.60	0.80	1.20	1.60	2.00	2.40	3.20	4.00	4.80	6.40	8.00	9.59	12.00	12.80	16.00	24.00
14.0	0.43	0.65	0.86	1.29	1.73	2.16	2.59	3.46	4.32	5.19	6.91	8.64	10.36	12.96	13.83	17.28	25.92
16.0	0.46	0.69	0.92	1.38	1.85	2.31	2.77	3.70	4.62	5.54	7.39	9.24	11.08	13.85	14.78	18.48	27.70
18.0	0.49	0.73	0.98	1.47	1.96	2.45	2.94	3.92	4.90	5.88	7.84	9.80	11.75	14.69	15.68	19.60	29.38
20.0	0.51	0.77	1.03	1.55	2.07	2.58	3.10	4.13	5.16	6.20	8.26	10.33	12.39	15.49	16.52	20.66	30.98
22.0	0.54	0.81	1.08	1.62	2.17	2.71	3.25	4.33	5.41	6.50	8.67	10.83	12.99	16.24	17.33	21.67	32.48
24.0	0.56	0.85	1.13	1.70	2.26	2.83	3.39	4.53	5.65	6.79	9.05	11.31	13.57	16.97	18.10	22.63	33.94
26.0	0.59	0.88	1.18	1.76	2.36	2.94	3.53	4.71	5.88	7.07	9.42	11.77	14.12	17.66	18.84	23.55	35.32
28.0	0.61	0.92	1.22	1.83	2.44	3.05	3.67	4.89	6.11	7.33	9.78	12.22	14.65	18.33	19.55	24.44	36.66
30.0	0.63	0.95	1.27	1.90	2.53	3.16	3.80	5.06	6.32	7.59	10.12	12.65	15.17	18.97	20.24	25.30	37.94

The above rates refer to a water temperature of 20 °C;
the pressure was measured on the nozzle tip.
Ensure to verify these rates with a measuring jug before starting
the application.

These results refer to the example on page 65.

* Legacy black now changed to light blue

** Legacy turquoise now changed to dark red

*** Legacy purple now changed to light brown

**** Legacy light-blue now changed to black

Application rates for field sprayers and 50cm nozzle spacings

Nozzle sizes and colour coding to ISO 10625 and analogue

Type Colour	Pressure (bar)	Application rate (l/ha) at a specific forward speed (km/h)								
		l/min	5	6	7	8	10	12	14	16
-01 orange	1.0	0.23	55	46	40	35	28	23	20	17
	1.5	0.28	68	57	49	42	34	28	24	21
	2.0	0.33	78	65	56	49	39	33	28	25
	2.5	0.37	88	73	63	55	44	37	31	27
	3.0	0.40	96	80	69	60	48	40	34	30
	4.0	0.46	111	92	79	69	55	46	40	35
	5.0	0.52	124	103	89	78	62	52	44	39
	6.0	0.57	136	113	97	85	68	57	49	42
	7.0	0.61	147	122	105	92	73	61	52	46
	8.0	0.65	157	131	112	98	78	65	56	49
-015 green	1.0	0.35	83	69	59	52	42	35	30	26
	1.5	0.42	102	85	73	64	51	42	36	32
	2.0	0.49	118	98	84	74	59	49	42	37
	2.5	0.55	132	110	94	82	66	55	47	41
	3.0	0.60	144	120	103	90	72	60	51	45
	4.0	0.69	166	139	119	104	83	69	59	52
	5.0	0.78	186	155	133	116	93	78	66	58
	6.0	0.85	204	170	146	127	102	85	73	64
	7.0	0.92	220	183	157	138	110	92	79	69
	8.0	0.98	235	196	168	147	118	98	84	74
-02 yellow	1.0	0.46	111	92	79	69	55	46	40	35
	1.5	0.57	136	113	97	85	68	57	49	42
	2.0	0.65	157	131	112	98	78	65	56	49
	2.5	0.73	175	146	125	110	88	73	63	55
	3.0	0.80	192	160	137	120	96	80	69	60
	4.0	0.92	222	185	158	139	111	92	79	69
	5.0	1.03	248	207	177	155	124	103	89	77
	6.0	1.13	271	226	194	170	136	113	97	85
	7.0	1.22	293	244	209	183	147	122	105	92
	8.0	1.31	313	261	224	196	157	131	112	98
-025 purple	1.0	0.58	138	115	99	87	69	58	49	43
	1.5	0.71	170	141	121	106	85	71	61	53
	2.0	0.82	196	163	140	122	98	82	70	61
	2.5	0.91	219	183	157	137	110	91	78	68
	3.0	1.00	240	200	171	150	120	100	86	75
	4.0	1.15	277	231	198	173	138	115	99	87
	5.0	1.29	310	258	221	194	155	129	111	97
	6.0	1.41	339	283	242	212	170	141	121	106
	7.0	1.53	367	306	262	229	183	153	131	115
	8.0	1.63	392	326	280	245	196	163	140	122
-03 dark blue	1.0	0.69	166	139	119	104	83	69	59	52
	1.5	0.85	204	170	146	127	102	85	73	64
	2.0	0.98	235	196	168	147	118	98	84	74
	2.5	1.10	263	219	188	164	131	110	94	82
	3.0	1.20	288	240	206	180	144	120	103	90
	4.0	1.39	332	277	237	208	166	139	119	104
	5.0	1.55	372	310	266	232	186	155	133	116
	6.0	1.70	407	339	291	255	204	170	145	127
	7.0	1.83	440	367	314	275	220	183	157	137
	8.0	1.96	470	392	336	294	235	196	168	147
-04 red	1.0	0.92	222	185	158	139	111	92	79	69
	1.5	1.13	271	226	194	170	136	113	97	85
	2.0	1.31	313	261	224	196	157	131	112	98
	2.5	1.46	351	292	250	219	175	146	125	110
	3.0	1.60	384	320	274	240	192	160	137	120
	4.0	1.85	444	370	317	277	222	185	158	139
	5.0	2.07	496	413	354	310	248	207	177	155
	6.0	2.26	543	453	388	339	272	226	194	170
	7.0	2.44	587	489	419	367	293	244	209	183
	8.0	2.61	627	522	448	392	313	261	224	196

Type Colour	Pressure (bar)	Application rate (l/ha) at a specific forward speed (km/h)								
		l/min	5	6	7	8	10	12	14	16
-05 brown	1.0	1.16	277	231	198	173	139	116	99	87
	1.5	1.41	339	283	242	212	170	141	121	106
	2.0	1.63	392	327	280	245	196	163	140	122
	2.5	1.83	438	365	313	274	219	183	157	137
	3.0	2.00	480	400	343	300	240	200	171	150
	4.0	2.31	554	462	396	346	277	231	198	173
	5.0	2.58	620	516	443	387	310	258	221	194
	6.0	2.83	679	566	485	424	339	283	242	212
	7.0	3.06	733	611	524	458	367	306	262	229
	8.0	3.26	783	653	560	490	392	326	280	245
-06 grey	1.0	1.39	333	277	238	208	166	139	119	104
	1.5	1.70	407	339	291	255	204	170	145	127
	2.0	1.96	470	392	336	294	235	196	168	147
	2.5	2.19	526	438	376	329	263	219	188	164
	3.0	2.40	576	480	411	360	288	240	206	180
	4.0	2.77	665	554	475	416	333	277	238	208
	5.0	3.10	744	620	531	465	372	310	266	232
	6.0	3.39	815	679	582	509	407	339	291	255
	7.0	3.67	880	733	628	550	440	367	314	275
	8.0	3.92	941	784	672	588	470	392	336	294
-08 white	1.0	1.85	444	370	317	277	222	185	158	139
	1.5	2.26	543	453	388	339	272	226	194	170
	2.0	2.61	627	523	448	392	314	261	224	196
	2.5	2.92	701	584	501	438	351	292	250	219
	3.0	3.20	768	640	549	480	384	320	274	240
	4.0	3.69	887	739	633	554	443	369	317	277
	5.0	4.13	992	826	708	620	496	413	354	310
	6.0	4.53	1086	905	776	679	543	453	388	339
	7.0	4.89	1173	978	838	733	587	489	419	367
	8.0	5.22	1254	1045	896	784	627	522	448	392
-10 light blue	1.0	2.31	554	462	396	346	277	231	198	173
	1.5	2.83	679	566	485	424	339	283	242	212
	2.0	3.27	784	653	560	490	392	327	280	245
	2.5	3.65	876	730	626	548	438	365	313	274
	3.0	4.00	960	800	686	600	480	400	343	300
	4.0	4.62	1108	924	792	693	554	462	396	346
	5.0	5.16	1239	1033	885	775	620	516	443	387
	6.0	5.66	1357	1131	970	848	679	566	485	424
	7.0	6.11	1466	1222	1047	917	733	611	524	458
	8.0	6.53	1567	1306	1119	979	783	653	560	490
-12 dark red	1.0	2.77	665	554	475	416	333	277	238	208
	1.5	3.39	814	679	582	509	407	339	291	255
	2.0	3.92	941	784	672	588	470	392	336	294
	2.5	4.38	1051	876	751	657	526	438	376	329
	3.0	4.80	1152	960	823	720	576	480	411	360
-16 light brown	4.0	5.54	1330	1109	950	831	665	554	475	416
	1.0	3.70	887	739	634	554	444	370	317	277
	1.5	4.52	1086	905	776	679	543	453	388	339
	2.0	5.23	1254	1045	896	784	627	523	448	392
-20 black	2.5	5.84	1402	1168	1001	876	701	584	501	438
	3.0	6.40	1536	1280	1097	960	768	640	549	480
	4.0	7.39	1774	1478	1267	1109	887	739	633	554
	1.0	4.62	1108	924	792	693	554	462	396	346
	1.5	5.66	1358	1131	970	849	679	566	485	424
	2.0	6.53	1568	1306	1120	980	784	653	560	490
	2.5	7.30	1753	1461	1252	1095	876	730	626	548
	3.0	8.00	1920	1600	1371	1200	960	800	686	600
	4.0	9.24	2217	1848	1584	1386	1109	924	792	693

* Legacy black now changed to light blue

** Legacy turquoise now changed to dark red

*** Legacy purple now changed to light brown

**** Legacy light blue now changed to black

These rates refer to a water temperature of 20 °C; the pressure was measured on the nozzle tip. Ensure to verify these rates with a measuring jug before starting the application.

Application rates for Beluga Dropleg (two nozzles / Dropleg)

Nozzle size	Pressure (bar)	l/min	Application rate (l/ha) at a specific forward speed (km/h)							
			3	4	5	6	7	8	9	10
-01	1.0	0.46	185	139	111	92	79	69	62	55
	1.5	0.57	226	170	136	113	97	85	75	68
	2.0	0.65	262	196	157	131	112	98	87	78
	2.5	0.73	292	219	175	146	125	110	97	88
	3.0	0.80	320	240	192	160	137	120	107	96
	4.0	0.92	370	277	222	185	158	139	123	111
	5.0	1.03	414	310	248	207	177	155	138	124
	6.0	1.13	453	340	272	226	194	170	151	136
-015	1.0	0.69	277	208	166	138	119	104	92	83
	1.5	0.85	339	254	204	170	145	127	113	102
	2.0	0.98	392	294	235	196	168	147	131	118
	2.5	1.10	438	329	263	219	188	164	146	132
	3.0	1.20	480	360	288	240	206	180	160	144
	4.0	1.39	554	416	333	277	238	208	185	166
	5.0	1.55	620	465	372	310	266	233	207	186
	6.0	1.70	679	509	408	340	291	255	226	204
-02	1.0	0.92	370	277	222	185	158	139	123	111
	1.5	1.13	453	340	272	226	194	170	151	136
	2.0	1.31	522	392	313	261	224	196	174	157
	2.5	1.46	584	438	350	292	250	219	195	175
	3.0	1.60	640	480	384	320	274	240	213	192
	4.0	1.85	739	554	444	370	317	277	246	222
	5.0	2.07	826	620	496	413	354	310	275	248
	6.0	2.26	905	679	543	452	388	339	302	271
-025	1.0	1.15	462	346	277	231	198	173	154	138
	1.5	1.41	566	424	339	283	242	212	189	170
	2.0	1.63	653	490	392	326	280	245	218	196
	2.5	1.83	730	548	438	365	313	274	243	219
	3.0	2.00	800	600	480	400	343	300	267	240
	4.0	2.31	923	692	554	462	396	346	308	277
	5.0	2.58	1033	775	620	516	443	387	344	310
	6.0	2.83	1131	848	679	566	485	424	377	339
-03	1.0	1.39	554	416	333	277	238	208	185	166
	1.5	1.70	679	509	408	340	291	255	226	204
	2.0	1.96	784	588	470	392	336	294	261	235
	2.5	2.19	876	657	526	438	375	329	292	263
	3.0	2.40	960	720	576	480	411	360	320	288
	4.0	2.77	1108	831	665	554	475	416	369	332
	5.0	3.10	1239	929	744	620	531	465	413	372
	6.0	3.39	1358	1018	815	679	582	509	453	407
-04	1.0	1.85	739	554	444	370	317	277	246	222
	1.5	2.26	905	679	543	452	388	339	302	271
	2.0	2.61	1045	784	627	522	448	392	348	313
	2.5	2.92	1169	877	701	584	501	438	390	351
	3.0	3.20	1280	960	768	640	549	480	427	384
	4.0	3.70	1478	1109	887	739	634	554	493	444
	5.0	4.13	1653	1240	992	826	708	620	551	496
	6.0	4.53	1810	1358	1086	905	776	679	603	543
-05	1.0	2.31	924	693	554	462	396	347	308	277
	1.5	2.83	1131	848	679	566	485	424	377	339
	2.0	3.27	1306	980	784	653	560	490	435	392
	2.5	3.65	1461	1096	876	730	626	548	487	438
	3.0	4.00	1600	1200	960	800	686	600	533	480
	4.0	4.62	1847	1385	1108	924	792	693	616	554
	5.0	5.16	2066	1549	1239	1033	885	775	689	620
	6.0	5.66	2262	1697	1357	1131	970	848	754	679

The above rates refer to a water temperature of 20 °C and 50cm hose drop spacings. The pressure is measured on the nozzle tip. Ensure to verify the specific result before starting the application.

Application rates for TurboDrop® VR MK III HiSpeed/TipCap

	Pressure	Flow rate	Application rate (l/ha) at a specific forward speed (km/h)									
	bar	l/min	4	5	6	7	8	10	12	14	16	20
TurboDrop® VR 1.5	2.0	0.67	210	168	140	120	105	84	70	60	53	42
	2.5	0.82	258	206	172	147	129	103	86	74	65	52
	3.0	0.97	305	244	203	174	152	122	102	87	76	61
	3.5	1.09	342	274	228	195	171	137	114	98	86	68
	4.0	1.21	378	302	252	216	189	151	126	108	95	76
	4.5	1.31	410	328	273	234	205	164	137	117	102	82
	5.0	1.40	438	350	292	250	219	175	146	125	110	88
	5.5	1.49	465	372	310	266	233	186	155	133	116	93
	6.0	1.57	489	391	326	279	245	196	163	140	122	98
	6.5	1.65	515	412	343	294	257	206	172	147	129	103
	7.0	1.72	537	430	358	307	269	215	179	153	134	107
TurboDrop® VR 2	7.5	1.79	560	448	373	320	280	224	187	160	140	112
	8.0	1.86	581	464	387	332	290	232	194	166	145	116
	2.0	0.98	299	239	199	171	149	119	100	85	75	60
	2.5	1.21	368	294	245	210	184	147	123	105	92	74
	3.0	1.44	437	349	291	249	218	175	146	125	109	87
	3.5	1.61	491	392	327	280	245	196	164	140	123	98
	4.0	1.78	543	434	362	310	272	217	181	155	136	109
	4.5	1.94	591	473	394	338	296	236	197	169	148	118
	5.0	2.09	636	509	424	363	318	254	212	182	159	127
	5.5	2.23	678	542	452	387	339	271	226	194	170	136
	6.0	2.36	717	574	478	410	359	287	239	205	179	143
TurboDrop® VR 3	6.5	2.48	755	604	503	431	377	302	252	216	189	151
	7.0	2.60	791	632	527	452	395	316	264	226	198	158
	7.5	2.71	825	660	550	471	413	330	275	236	206	165
	8.0	2.82	860	688	573	491	430	344	287	246	215	172
	2.0	1.14	375	300	250	214	188	150	125	107	94	75
	2.5	1.40	456	365	304	261	228	182	152	130	114	91
	3.0	1.66	537	430	358	307	269	215	179	153	134	107
	3.5	1.87	605	484	403	345	302	242	202	173	151	121
	4.0	2.07	672	538	448	384	336	269	224	192	168	134
	4.5	2.25	729	583	486	417	365	292	243	208	182	146
	5.0	2.42	785	628	523	448	392	314	262	224	196	157
TurboDrop® VR 5	5.5	2.58	836	668	557	477	418	334	279	239	209	167
	6.0	2.73	884	707	589	505	442	353	295	252	221	177
	6.5	2.87	929	743	619	531	464	371	310	265	232	186
	7.0	3.01	974	779	649	556	487	389	325	278	243	195
	7.5	3.14	1016	812	677	580	508	406	339	290	254	203
	8.0	3.27	1056	845	704	603	528	422	352	302	264	211
	2.0	2.24	672	538	448	384	336	269	224	192	168	134
	2.5	2.56	768	614	512	439	384	307	256	219	192	154
	3.0	2.87	861	689	574	492	431	344	287	246	215	172
	3.5	3.16	948	758	632	542	474	379	316	271	237	190
	4.0	3.44	1032	826	688	590	516	413	344	295	258	206
	4.5	3.70	1110	888	740	634	555	444	370	317	278	222
	5.0	3.95	1185	948	790	677	593	474	395	339	296	237
	5.5	4.18	1254	1003	836	717	627	502	418	358	314	251
	6.0	4.40	1320	1056	880	754	660	528	440	377	330	264
	6.5	4.60	1380	1104	920	789	690	552	460	394	345	276
	7.0	4.80	1440	1152	960	823	720	576	480	411	360	288
	7.5	4.97	1491	1193	994	852	746	596	497	426	373	298
	8.0	5.14	1542	1234	1028	881	771	617	514	441	386	308

The above rates refer to a water temperature of 20 °C and incl. the recommended strainer. The pressure is measured on the nozzle tip. Ensure to verify these rates with a measuring jug before starting the application.
The rates for TurboDrop® VR 5 apply to TipCap only.

Application rates for TurboDrop® VR MK III ESI/VariFlow

	Pressure	Flow rate	Application rate (l/ha) at a specific forward speed (km/h)									
	bar	l/min	4	5	6	7	8	10	12	14	16	20
TurboDrop® VR 1.5	2.0	0.94	281	224	187	160	140	112	94	80	70	56
	2.5	1.11	333	266	222	190	167	133	111	95	83	67
	3.0	1.28	384	307	256	219	192	154	128	110	96	77
	3.5	1.41	423	338	282	242	212	169	141	121	106	85
	4.0	1.54	462	370	308	264	231	185	154	132	116	92
	4.5	1.65	495	396	330	283	248	198	165	141	124	99
	5.0	1.76	528	422	352	302	264	211	176	151	132	106
	5.5	1.86	558	446	372	319	279	223	186	159	140	112
	6.0	1.96	588	470	392	336	294	235	196	168	147	118
	6.5	2.04	612	490	408	350	306	245	204	175	153	122
	7.0	2.12	636	509	424	363	318	254	212	182	159	127
TurboDrop® VR 2	7.5	2.19	656	524	437	375	328	262	219	187	164	131
	8.0	2.25	674	539	449	385	337	269	225	192	168	135
	2.0	1.28	384	307	256	219	192	154	128	110	96	77
	2.5	1.54	462	370	308	264	231	185	154	132	116	92
	3.0	1.79	537	430	358	307	269	215	179	153	134	107
	3.5	2.00	599	479	399	342	299	239	200	171	150	120
	4.0	2.20	660	528	440	377	330	264	220	189	165	132
	4.5	2.38	713	570	475	407	356	285	238	204	178	143
	5.0	2.55	764	611	509	436	382	305	255	218	191	153
	5.5	2.70	810	648	540	463	405	324	270	231	203	162
	6.0	2.85	855	684	570	489	428	342	285	244	214	171
TurboDrop® VR 3	6.5	2.98	893	714	595	510	446	357	298	255	223	179
	7.0	3.10	929	743	619	531	464	371	310	265	232	186
	7.5	3.20	959	767	639	548	479	383	320	274	240	192
	8.0	3.29	986	788	657	563	493	394	329	282	246	197
	2.0	1.66	498	398	332	285	249	199	166	142	125	100
	2.5	1.97	591	473	394	338	296	236	197	169	148	118
	3.0	2.28	683	546	455	390	341	273	228	195	171	137
	3.5	2.53	758	606	505	433	379	303	253	216	189	152
	4.0	2.78	833	666	555	476	416	333	278	238	208	167
	4.5	2.99	897	718	598	513	449	359	299	256	224	179
	5.0	3.20	960	768	640	549	480	384	320	274	240	192
TurboDrop® VR 5	5.5	3.39	1017	814	678	581	509	407	339	291	254	203
	6.0	3.58	1073	858	715	613	536	429	358	306	268	215
	6.5	3.75	1124	899	749	642	562	449	375	321	281	225
	7.0	3.92	1175	940	783	671	587	470	392	336	294	235
	7.5	4.08	1223	978	815	699	611	489	408	349	306	245
	8.0	4.23	1269	1015	846	725	635	508	423	363	317	254
	2.0	2.66	788	630	525	450	394	315	263	225	197	158
	2.5	3.05	905	724	603	517	452	362	302	258	226	181
	3.0	3.43	1020	816	680	583	510	408	340	291	255	204
	3.5	3.74	1115	892	743	637	557	446	372	318	279	223
	4.0	4.05	1208	966	805	690	604	483	403	345	302	242
	4.5	4.32	1290	1032	860	737	645	516	430	369	323	258
	5.0	4.59	1371	1097	914	783	686	548	457	392	343	274
	5.5	4.83	1445	1156	963	825	722	578	482	413	361	289
	6.0	5.07	1517	1213	1011	867	758	607	506	433	379	303
	6.5	5.30	1584	1267	1056	905	792	634	528	453	396	317
	7.0	5.52	1650	1320	1100	943	825	660	550	471	413	330
	7.5	5.73	1713	1370	1142	979	857	685	571	489	428	343
	8.0	5.93	1775	1420	1183	1014	887	710	592	507	444	355

The above rates refer to a water temperature of 20 °C and incl. the recommended strainer. The pressure is measured on the nozzle tip. Ensure to verify these rates with a measuring jug before starting the application.

Important formulas



Broadcast spraying: Spray booms with 50cm nozzle spacings

$$\text{Application rate (l/ha)} = \frac{\text{Output of one nozzle (l/min)} \times 1200}{\text{Forward speed (km/h)}}$$

$$\text{Output of one nozzle (l/min)} = \frac{\text{l/ha} \times \text{km/h}}{1200}$$

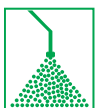


Vineyard, orchard and hop spraying

$$\text{Application rate (l/ha)} = \frac{\text{Combined output of all nozzles (l/min)} \times 600}{\text{Forward speed (km/h)} \times \text{working width (m)}}$$

$$\text{Total output of all nozzles (l/min)} = \frac{\text{l/ha} \times \text{km/h} \times \text{working width}}{600}$$

$$\text{Output of one nozzle (l/min)} = \frac{\text{Total output of all nozzles (l/min)}}{\text{Number of nozzles}}$$



Band spraying and knapsack spraying

$$\text{Application rate (l/ha)} = \frac{\text{Output of one nozzle (l/min)} \times 60,000}{\text{Forward speed (km/h)} \times \text{band width (m)}}$$

The application rate refers to the **covered** area.

$$\text{Spray liquid saved (\%)} = 100 - \frac{\text{Band width covered (cm)} \times 100}{\text{Total width (cm)}}$$

Forward speed

$$\text{Forward speed (km/h)} = 3.6 \times \frac{\text{Distance travelled (m)}}{\text{Travel time (s)}}$$

Notes

Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



agrotop
spray technology



Cleaning and Rinsing

Sprayer Washdown Equipment

Hopper / Container Rinse

Tank Rinse ■ Continuous Tank Rinse

Sprayer Washdown Equipment



Pressure wash kit for sprayers. The kit consists of a pressure piston pump with pressure regulator and a hydraulic motor that is flanged to the pump and connects to the tractor's hydraulic system, plus the pressure hose and spray gun.

Wash kit HYD-XM 15.15, 15 l/min, 150 bar, 29 l/min oil flow

Order no. 11618 20m hose

Order no. 11619 25m hose

Wash kit HYD-XM 15.20, 15 l/min, 200 bar, 29 l/min oil flow

Order no. 11621 16m hose

Order no. 15532 20m hose

Wash kit HYD-XM 30.10, 30 l/min, 100 bar, 32 l/min oil flow

Order no. 11622 16m hose



Automatic spring hose reels

Order no. 11231 Hose reel, 250 bar, G 1/2",
for max. 16m hoses 1/2",
painted steel sheet



Order no. 11229 Hose reel, 20 bar, G 1/4",
supplied with 15m hose 1/4",
plastic



Order no. 11234 Hose reel, 200 bar, G 1",
for max. 20m hoses 1",
painted steel

Order no. 11225 Hose reel, 300 bar, G 3/8",
for max. 20m hoses 3/8",
stainless steel



Order no. 11223 Hose reel, 300 bar, G 3/8",
for max. 20m hoses 3/8",
painted steel sheet

Order no. 11222 Hose reel, 300bar, G 3/8",
for max. 28m hoses 3/8",
painted steel sheet

Order no. 15035 Pressure hose, 16 m, 215 bar

Order no. 15036 Pressure hose, 20 m, 215 bar

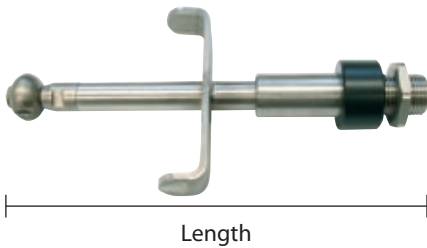
Order no. 15037 Pressure hose, 25 m, 215 bar

Order no. 15034 Pressure hose, 15 m, 315 bar

Order no. 15677 Pressure hose, 20 m, 315 bar

Inquire for wall mounts

Hopper / Container Rinse



Rinsing nozzle for installation inside inductor hoppers, etc.; rotating stainless steel nozzle. The valve opens progressively as the hopper / container is pushed onto the valve and directs a particularly powerful water jet at the bottom of the container. Water consumption is 17l/min at 3bar; G 1/2" thread

Order no. 16454 Hopper rinsing valve, stainless steel, c/w nozzle.
Length = 215 mm



JKI-approved rinsing system exceeds EN 12761 standards (mandatory for new field sprayers).

Order no. 11248 Hopper rinsing nozzle, stainless steel, 1/4" male thread

Tank Rinsing Nozzles



Ball nozzle

Rotating ball nozzle for spray tanks; stainless steel, produces 5 powerful spray fans for 360° cleaning action (ball)



Hemisphere ball

Rotating nozzle for spray tanks, stainless steel, produces 2 or 3 spray fans for 180° cleaning (hemisphere); produces an extra powerful upward jet for continuous tank rinsing.

Rotating tank rinsing nozzles

Order no.	11240	11242	17204	16131	17271	17272
Thread	G 1/4"	G 1/4"	G 1/4"	G 1/2"	G 1/2"	G 1/2"
Spray pattern	Ball	Hemisphere	Hemisphere	Ball	Ball	Hemisphere
Flow rate, approx. l/min at 3 bar	22.0	22.0	10.0	40.0	30.0	30.0
Length/diameter in mm	50 / 25	50 / 25	53 / 35	65 / 38	58 / 40	58 / 40
Material	Stainless steel	Stainless steel	Plastic	Plastic	Plastic	Plastic

Continuous Tank Rinse

Kit for field sprayers



Components:

- Centrifugal pump FMC-75-HYD-204, hydraulic drive; suction and pressure fittings for pump and clean water tank
- 2 rotating tank rinsing nozzles made from plastic, 1/2" male thread, approx. 30l/min at 3bar, check valve with 3/4" female thread
- Connecting elements, sealing parts, clamp assemblies
- Instructions

Order no. 11215

* Note:

The pressure and suction lines for the pump and the oil hoses to the tractor must be purchased separately.

Extension
kit for 4000-litre+
tanks or 70l/min
boom outputs:

Order no. 15610



JKI-
approved

G 1906



Airblast sprayer kits, hydraulic-drive pump



Components:

- AR 252 diaphragm unit with OMP 50 hydraulic drive, suction and pressure fittings for pump and clean water tank
- 3 rotating tank rinsing nozzles made from plastic, 1/4" male thread, check valve 1/2" female thread
- Connecting elements, sealing parts, clamp assemblies
- Instructions

Order no. 11217

* Note:

The pressure and suction lines for the pump and the oil hoses to the tractor must be purchased separately.

Option for airblast sprayer kit:

Sprayer washdown equipment

Order no. 15033



Parts kit for up to 800-litre tanks (field and airblast sprayers)



Components:

- 12V pump, 12amps, max. 17l/min flow, 5m supply line c/w on/off switch (IP 65 rating), suction and pressure fittings for the pump and clean water tank incl. inlet strainer
- 2 rotating tank rinsing nozzles made from plastic, 1/4" male thread, 15l/min flow at 3bar, check valve 1/2" female thread
- Connecting elements, sealing parts and clamp assemblies 2m, 3/4" suction line hose and 3m, 1/2" pressure line hose
- Instructions

Order no. 11216

Parts kit for up to 1000-litre tanks (field and airblast sprayers)



Components:

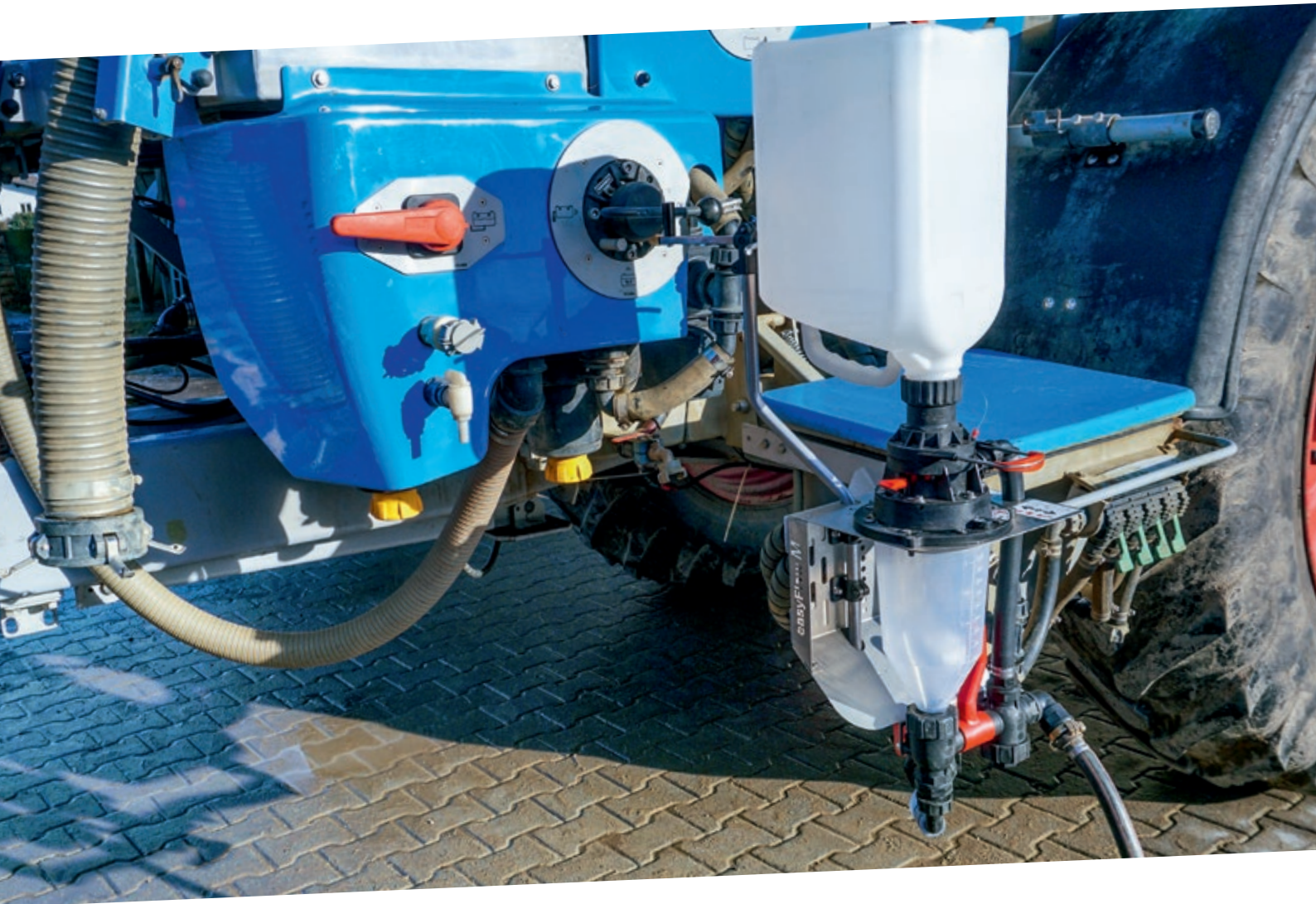
- 12V pump, 23amps, max. 25l/min flow, 5m supply line c/w on/off switch (IP 65 rating), suction and pressure fittings for pump and clean water tank incl. inlet strainer
- 2 rotating tank rinsing nozzles made from plastic, 1/4" male thread, 18l/min flow at 3bar, check valve 1/2" female thread
- Connecting elements, sealing parts and clamp assemblies 2m, 3/4" suction line hose and 3m, 1/2" pressure line hose
- Instructions

Order no. 16618

Cleaning and Rinsing

Notes

[illegible]



Handling Chemical Products

easyFlow ■ Flow Meter

No-drip Coupling

QuantoFill ■ Spray Tank

VacuFill® ■ CTS Accessories

12V Electric Diaphragm pumps

easyFlow

Closed transfer systems – transferring chemicals from the container to the sprayer



The easyFlow tank adapter



easyFlow container adapter

Set of assorted
wedged
washers



Set 1



Set 2

easyFlow features

- The system comprises a tank adapter and a container adapter
- The tank adapter attaches to spray tanks or inductor hoppers
- A scale on the container helps measuring individual quantities
- The system and the empty container are rinsed through a fresh water connection

Order no. 15955 **Tank adapter**
(incl. drilling template, gasket and fasteners)

Order no. 15954 **Container adapter**
for containers with 63mm threads
Adapts to the easyFlow base unit and the
easyFlow tank adapter
**This adapter is a mandatory requirement
for operating an easyFlow M system**

Options

Order no. 16071 **Assorted wedged washers** compensate for
uneven contact faces
(set of 2 wedged washers and 2 gaskets)

Order no. 16076 **Set 1** 1 tank adapter (order no. 15955)
3 container adapters (Order no. 15954)

Order no. 16077 **Set 2** 1 tank adapter (Order no. 15955)
5 container adapters (Order no. 15954)

easyFlow M

Metering and dosing chemicals accurately
from containers with integral rinsing function



The easyFlow M base unit

easyFlow features

- System of easyFlow M base unit and container adapter
- Installed to the sprayer or used as a separate unit at the filling site
- Emptied through the vacuum line
- Small quantities are measured with the integral jug (60 - 2000ml)
- The system and the empty container are rinsed through a fresh water connection

Order no. 16532 **easyFlow M**

Base unit, closed system for metering and transferring liquids from containers, supplied with a universal holder from stainless steel. Connections:

- Clean water hose connector 1" BSP female thread
- Elbow hose connector, 25mm, for drain hose 1".

Order no. 16740 **Container stand** for the easyFlow M base unit, recommended for 10-litre+ containers.

Order no. 15954 **Container adapter** for containers with 63mm threads Adapts to the easyFlow base unit and the easyFlow tank adapter **This adapter is a mandatory requirement for operating an easyFlow M system**

Order no. 16650 **Dog clutch** – GEKA with 1" male thread, for the clean water hose connector 1"

Order no. 14855 **O-ring** for sealing the dog clutch Order no. 16650

Order no. 16873 **easyFlow M drain hose 1"** – 3m spiral hose c/w two hose clamps.



easyFlow
container adapter

Container stand

Dog clutch



easyFlow M drain hose

easyFlow M Accessories



easyFlow M mobile rack

Order no. 16879 **easyFlow M mobile rack**

For parking up the easyFlow M base unit next to the sprayer

It is recommended to connect the easyFlow M base unit and the sprayer by using no-drip couplings (not supplied)

Connecting kit for sprayers that lack an easyFlow M connector

Order no. 16742 **Universal connecting kit**

including 40/50/60mm grommets for installing the suction hose to a sprayer

Connects the easyFlow M to the sprayer. Suitable for using the easyFlow M as a sprayer-mounted or separate solution

For connecting a separate EasyFlow M unit (mounted on the easyFlow M mobile rack, for example) to the connector kit, we recommend using no-drip couplings (not included in this kit)



Universal connector kit

No-drip coupling

Order no. 16536 **Female coupling**

1" NPT with 25mm grommet and hose clamp

For no-drip connection of a stand-alone easyFlow M unit.

Connects to the easyFlow M drain hose 1"



Female coupling

Order no. 15638 **Male coupling**

Complete with 1" BSP female thread for no-drip connection (using the female coupling) of a separate easyFlow M unit

Connects to the sprayer or to the universal connector kit (usually in place on sprayers with VacuFill® or Ecomatic® connections).

Requires a 1" double nipple (order no. 10852) for connecting to the universal connector kit (not supplied)



Male coupling



Container bleed valve

Order no. 16965 **Chucker, container bleed valve**

Piercing valve for fast emptying



easyMeter flow meter

Order no 15636 easyMeter flow meter

Specifications

- Volumetric flow meter for liquid chemicals
- Metering ranges: 8–60 l/min at 0–5 bar
- Volume display range: 0–9999 litres
- Four-digit reading of the current rate, total volume applied, calibration result
- Metering is paused during rinsing; the air sensor halts the meter automatically during air induction
- Extremely robust and resistant construction made from glass fibre-reinforced polypropylene
- Easy product selection simply by entering the default calibration result

No-drip coupling

for liquid chemicals



Female coupling



Male coupling

Specifications

- Both couplers feature automatic no-drip shutoff when disconnected
- Robust construction made from glass fibre-reinforced polypropylene and stainless steel
- We recommend using the male connector on the sprayer

Order no. 17326 Female coupling, 1" female thread

Order no. 17327 Male coupling with 1" female thread



Automatic dispenser for liquid chemicals

QuantoFill M

QuantoFill M is an automatic dispenser for three or five different products. Inquire about further information and specifications.

Order no. 10141

QuantoFill M 4 auto dispenser, 12V

Order no. 10142

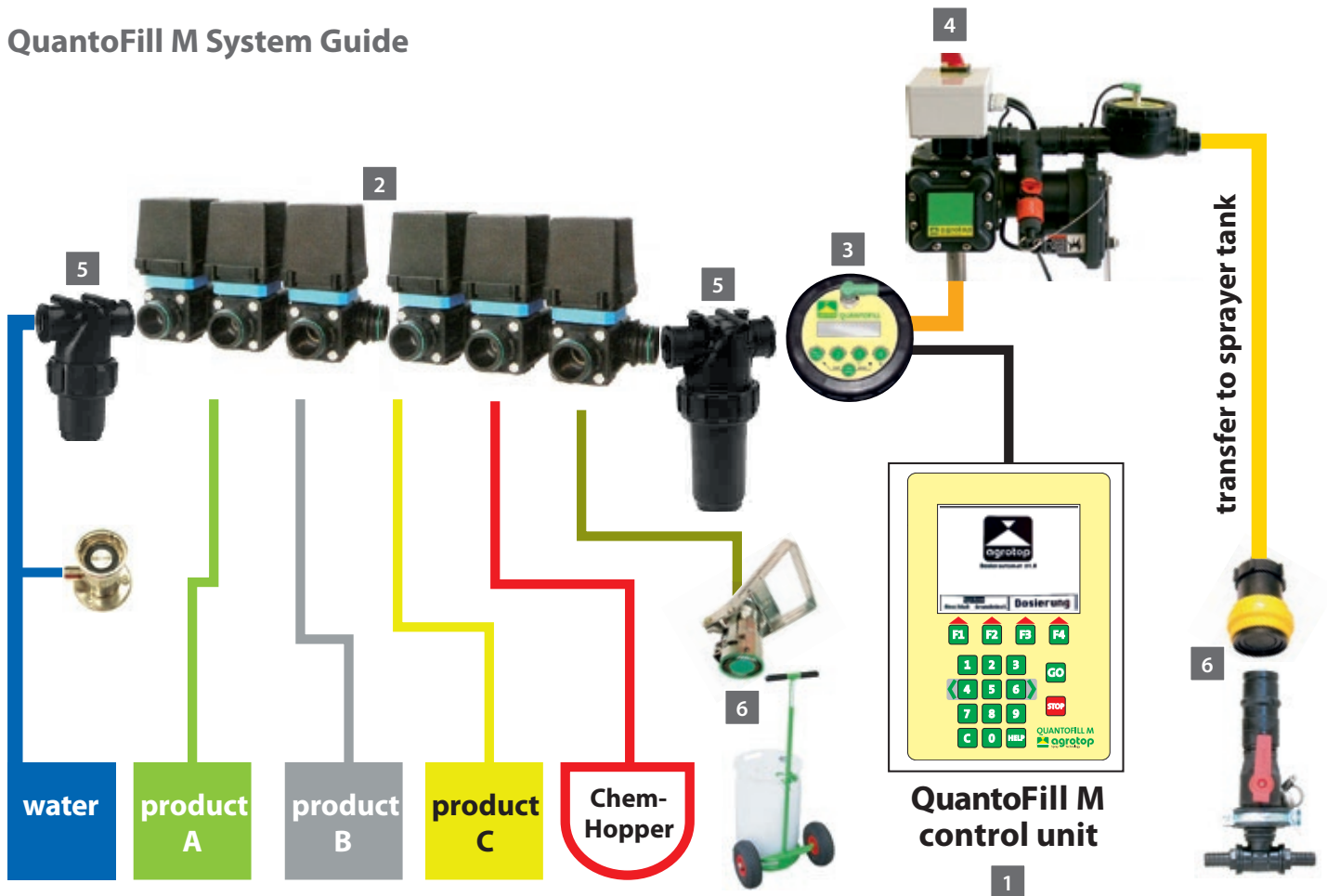
QuantoFill M 6 auto dispenser, 12V

QuantoFill M Specifications

■ Media permitted:	Approved chemicals and solutions	■ Min. dosing volume:	3.00 litres, optional 1.00 litre
■ Viscosity range:	1.0 to 3000 CPS	■ Dosing accuracy:	< 2.5%
■ Spray liquid volume range:	50 – 49.999 litres	■ Power:	12 V DC
■ Spray liquid application rate range:	50 – 4999 l/ha	■ Current draw:	25 amps DC / 1.5 amps AC
■ Pesticide dispensing range:	1.00 – 999.99 litres	■ Pump capacity:	max. 40 l/min
■ Pesticide application rate range:	0.10 – 99.99 l/ha	■ Pump height:	max. 8 m
■ Product number:	max. 5 simultaneously	■ Operating temperature:	–5 °C to +45 °C
■ Pesticide data logger:	max. 25 products/ application rates	■ Permitted dosing time:	max. 30 min/cycle
		■ Pre-suction line:	max. 3 m
		■ Feed line	max. 8 m

QuantoFill M

QuantoFill M System Guide



The automatic dispensing system

1 Control and regulating unit

- Control box
- Power supply
- Dispensing units
- Master switch

2 Valve manifold

- 6 valves
 - 5 chemical valves
 - 1 water valve

3 Volumetric flow meter

4 Diaphragm pump for liquid products

5 Two strainers

- One chemical strainer
- One water strainer

6 Hoses and couplings for connecting a container to the sprayer

Dosing system for nitrification inhibitors

The QuantoFill M dosing system



1. Threaded container inlet
2. Diaphragm check valve
3. 3m suction hose
4. 12V/230V pump
5. Plastic casing, 40 x 30 x 15cm
6. 7m pressure hose
7. Flow meter

Features

- Automatic and precision system eliminates dosing errors
- Dosing and measuring is one operation for faster filling cycles
- No cleaning required, maximum environmental safety
- Remote control from the cab maximizes operator comfort and safety
- Eliminates any risk of contamination
- High reliability
- Fast and straightforward attachment to the sprayer
- 100-litre bins are available on request

agrotop offers three different dosing systems:

1. **For stationary slurry controllers** – QuantoFill 130 with 230V pump and integral control panel
2. **For trailed slurry tankers** – 12V QuantoFill 115
3. **For SP slurry spreaders** – QuantoFill 115 c/w cab-based remote control

**Easy attachment,
easy use**

QuantoFill dosing systems with pump



QuantoFill 100 with small diaphragm pump

Specifications

- Encased in impact- and corrosion-resistant plastic case with folding lid
- Suitable for installation to sprayers or inside store rooms
- 3m suction hose
- 7m pressure hose and threaded tank connector for permanent installation
- Approx. 2l/min flow rate

Order no. 10131	QuantoFill 115	12V DC (approx. 7amps current draw)
Order no. 10132	QuantoFill 130	230V AC (approx. 120W watt power)
Order no. 10133	QuantoFill 115	12V DC, remote control, 5m lead
Order no. 16117	QuantoFill 115	12V DC, remote control, 10m lead



Chemical container made from rotationally sintered polyethylene

Supplied complete with threaded lid and inlet strainer

Order no. 15506 100-litre container

VacuFill® Vacuum Dispensing System

for dispensing liquid chemicals from containers with MicroMatic valves



The system connects either to a free suction hose connector on the sprayer or – by using a T-fitting – directly to the suction line the runs from the container to the pump. The quantity that is being dispensed is measured accurately by the flow meter and controlled by the integral ball valve.

The MicroMatic transfer connector and the no-drip, self-locking coupling to the sprayer ensure the system is a closed system. The equipment offers optimal operator safety and environmental protection.

If specified with the rinsing pedestal, it is possible to rinse the system and transfer the rinse water to the sprayer.



VacuFill® base unit

Specifications

- Complete with MicroMatic transfer connector
- Flow meter
- Regulating valve
- 3m pressure hose and no-drip female coupling
- Excluding fittings to connect to the sprayer
- Rinsing pedestal

Order no. 10122

Handling Chemical Products

Fittings and Accessories

Special adapters



Order no. 14713 Special 2" adapter for Hardi

Order no. 14715 Special adapter for RAU



Adapters for sprayer-based suction couplers

Order no. 14716 Adapter for 2" cam lock coupling

Order no. 14714 Adapter for 3" cam lock coupling



Suction line fittings

Order no. 14717 2" T-fitting assembly – 2 3/8" (50 – 60 mm)



MicroMatic transfer connector with G 1" female thread

Order no. 14739



Rinsing pedestal for MicroMatic transfer connector c/w 3/4" hose nozzle
for fresh water supplies. The pedestal also serves as transfer connector.

Order no. 14736

CTS Accessories



Riser pipe for threaded valves

Order no. 14741 1000 mm

Order no. 14742 1500 mm



RS-DV threaded valves

Order no. 14737 Fine thread

Order no. 14738 Coarse thread



Multi-purpose tool

Order no. 14695 Used for threading the valves into position



ChemKart container cart

Order no. 10118

12V Electric Diaphragm pumps

DP23Y



DP23Y

Max. operating pressure	3.0 bar at 2.4 l/min
Max. feed capacity	4.0 l/min at 0 bar
Max. current draw	2.8 amps
Voltage	12 V DC
Order no. pump incl. Quick connect hose barb 10mm	17535
Additional Quick connect 1/2" NPT	17538

DP35Y



DP35Y

Max. operating pressure	9.0 bar at 4.0 l/min
Max. feed capacity	6.1 l/min at 0 bar
Max. current draw	13 amps
Voltage	12 V DC
Order no. incl. Quick connect hose barbs 10, 12mm	17536

Handling Chemical Products

EF3000



EF3000

Max. operating pressure	4.0 bar
at	7.4 l/min
Max. feed capacity	11.7 l/min
at	0 bar
Max. current draw	12 amps
Voltage	12 V DC
Order no.	17530

EF4000



EF4000

Max. operating pressure	4.0 bar
at	8.9 l/min
Max. feed capacity	14.8 l/min
at	0 bar
Max. current draw	12 amps
Voltage	12 V DC
Order no.	17531

EF5500



EF5500

Max. operating pressure	4.0 bar
at	11.2 l/min
Max. feed capacity	19.9 l/min
at	0 bar
Max. current draw	16 amps
Voltage	12 V DC
Order no.	17532

Handling Chemical Products

EF7000



EF7000

Max. operating pressure	4.0 bar at 16.5 l/min
Max. feed capacity	23.8 l/min at 0 bar
Max. current draw	23 amps
Voltage	12 V DC
Order no.	17533

Accessories for electric diaphragm pumps for EF Series

Order no.	
16543	Pressure regulator for electric EF Series diaphragm pumps
16846	3/4" straight coupling c/w 10mm spout
16847	3/4" straight coupling c/w 13mm spout
16848	3/4" straight coupling c/w 19mm spout
16849	3/4" straight coupling c/w 1/2" NPT male thread
16850	3/4" bent coupling c/w 10mm spout
16851	3/4" bent coupling c/w 13mm spout
16852	3/4" bent coupling c/w 19mm spout
16853	3/4" bent coupling, 50° c/w 13mm spout
16854	3/4" bent coupling c/w 10mm spout 1/4" female thread

Notes

[illegible]



Measuring and Checking

DigE-Check

QuickCheck Calibration Jug

Anemometer

Water-Sensitive Paper



DigE-Check

Electronic nozzle tester

This device measures the flow rate directly on the nozzle tip. The digital display instantly reads out the current l/min flow rate. There is no need for complex calculations.

Simply press the Start button and position the DigE-Check under the nozzle tip. Hold it there at a slight angle. The measurement is carried out automatically as the spray liquid fills the plastic tube. After the measurement is completed, the digital display reads out the current flow rate. To repeat the measurement, empty the DigE-Check and press the Start button.

Compare the readings with the rates in the nozzle chart or compare the readings of various nozzles.



Specifications

- Robust, splash-proof plastic housing
- Rapid measuring. For example, it takes about 15 seconds to measure the flow rate of a 04 nozzle at 3 bar
- $\pm 3\%$ or last digit accuracy
- 0–3.5l/min measuring range
- Size: 23.5cm high, $\varnothing$ 5.7cm, 236g
- Powered by two LR1 (N) batteries
- Easy, single-handed use



Order no. 15605 Electronic nozzle tester DigE-Check

QuickCheck Calibration Jug



Meets EN 12761 standards:

All new field and tree sprayers must be supplied with calibration testing equipment, for example, a measuring jug of min. 2.5% accuracy.

Specifications

- Measuring cups made from transparent polypropylene
- Durable print
- 2-litre rated volume
- 50–800l/ha measuring range at 5–18km/h
- 2.5% accuracy
- A customized print is available on request

A useful and multi-function tool for setting up broadcast / band / row sprayers

1. To set the flow rate, position the QuickCheck calibration jug under one nozzle and hold it there for 30 seconds. Then read the application rates that apply to various forward speeds. Correct as necessary.
2. To verify the forward speed, read on the jug the time it takes to travel down the metering distance.
3. To determine nozzle wear and pressure loss, collect the spray jet for 30 seconds and compare the result with the nozzle scale on the QuickCheck jug.
4. To select the proper nozzles, read the appropriate nozzle pressures, forward speeds and l/ha rates on the jug.

Order no. 10190 QuickCheck calibration jug

Anemometer



Specifications

- Portable electronic propeller anemometer.
The current wind velocity is indicated in m/s, km/h, mph or knots
- Backlit LCD display
- Shuts off automatically
- Splash water protected
- Supplied with neck strap
- Supplied complete with 3V lithium cell
- 0.2–30m/s measuring range
- $\pm 5\%$ or last-digit accuracy

Order no. 10159 Portable anemometer

Order no. 10162 Pouch for portable anemometer

Water-Sensitive Paper



These test paper strips have a special coating that turns blue on water contact. This is an ideal tool for verifying crop penetration, droplet density and distribution on the target area. The paper strips hang in the stand like leaves.

Order no. 10157 Pack containing 50 paper strips (52 by 76 mm)

Order no. 10158 Pack containing 50 paper strips (76 by 26 mm)

We are there for you wherever you need us.



Check out our personal nozzle consulting service at
www.agrotop.com



Or scan this code
to access the information
from your smartphone.



Check out our **agrotopLive** YouTube channel
at **www.youtube.com/c/agrotop** and view for exciting
videos and application cases

Subject to technical changes.
The General Terms and Conditions apply in the current version.



agrotop GmbH
Köferinger Straße 5
93083 Obertraubling (Germany)
Telephone +49 9453 9938 0
Telefax +49 9453 993 845
Email info@agrotop.com
Internet www.agrotop.com