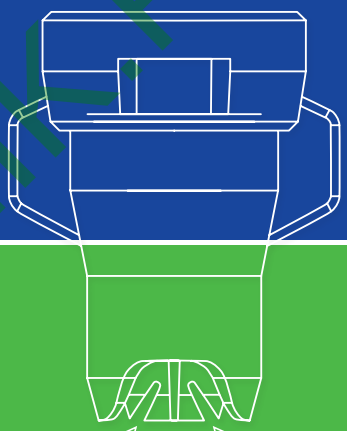
*ENGINEERING*
*YOUR SPRAY SOLUTION*

# AGRICULTURAL SPRAY NOZZLES AND ACCESSORIES

for spray applications in agriculture | Catalogue L 2022



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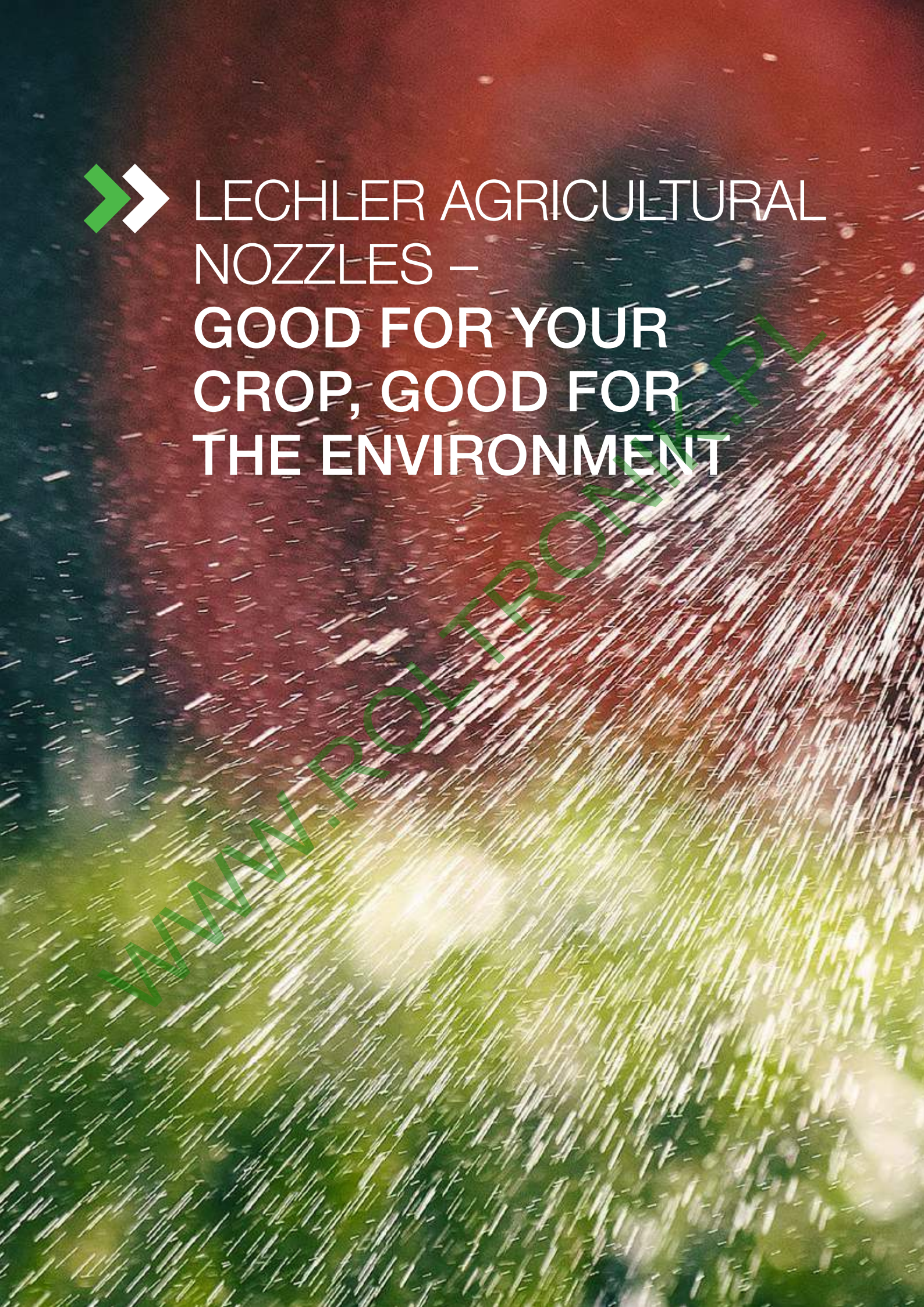
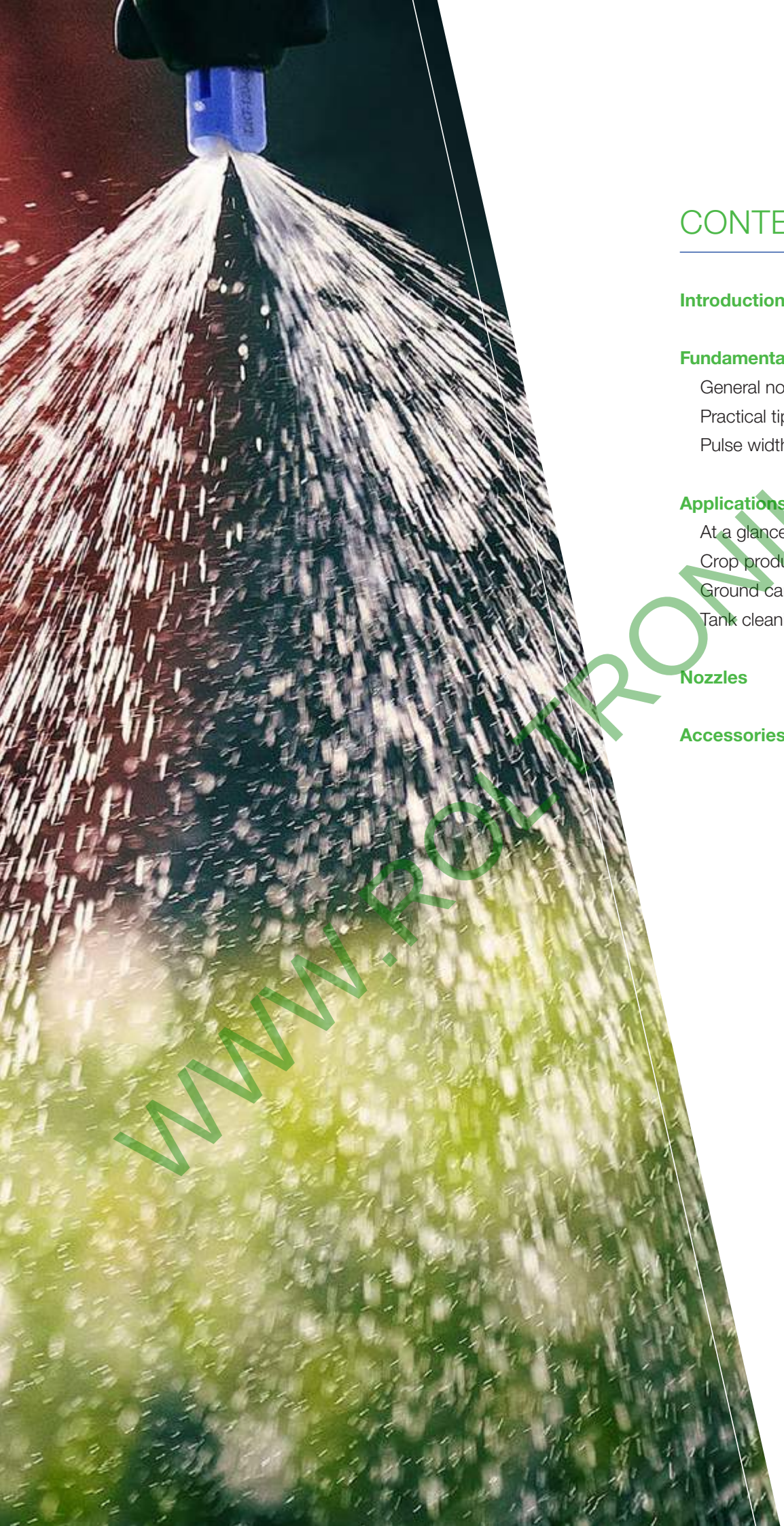


# LECHLER AGRICULTURAL NOZZLES – GOOD FOR YOUR CROP, GOOD FOR THE ENVIRONMENT



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# LECHLER AGRICULTURAL TECHNOLOGY – LEADING IN DRIFT-REDUCING TECHNOLOGY AND USER-FRIENDLY SOLUTIONS




Lechler is a world leader in nozzle technology. For over 140 years, we have pioneered numerous groundbreaking developments in the field of nozzle technology. Thanks to our decades of experience with drift-reducing technology, we have been able to make a significant contribution to more gentle and precise application of plant protection products.

2005
- VarioSelect, strawberries frame
- IDK
- IDN
- IDKN

2010
- FD
- IDKT
- PSV, VarioInject
- Dropleg[UL]

2015
- SC
- VarioSelect II
- 5S
- Hose drop system
- ID3
- PRE

2020
- IDTA
- Cleaner series
- ESV
- FS

- XDT
- VR
- FB
- TR 60



We developed the ID 120-05 as early as the 1990s – the first JKI-approved nozzle with 90 % drift reduction – and therefore laid down a marker for the future direction. Just a few years later, the PRE (VA for Syngenta) already made it possible to achieve a 95 % drift reduction for field spraying. Further user-friendly solutions followed at short intervals, such as the patented IDTA injector that can be removed without tools.

In Europe, Lechler has been the number one for nozzle technology for a long time now. However, we do not just see ourselves as a nozzle manufacturer, but above all as a partner in efforts to achieve both environmentally-friendly and efficient agriculture. This is also particularly true for the large growth markets in the CIS states and India, where we are already represented by subsidiary companies and a dense sales network.

## Flow rate

The flow rate of a nozzle changes as a function of the spray pressure. Expressed in simplified terms, the flow rate (l/min) is doubled if the spray pressure (bar) is quadrupled.

**The following formula applies:** $\dot{V}_2 = \sqrt{\frac{p_2}{p_1}} \times \dot{V}_1$ **[l/min]**

## Density

All table values for flow rate are based on water (density 1.0 kg/l), if not otherwise specified. In the case of liquids with a different density, the specified conversion factors must be taken into account.

## Conversion factors for different liquid densities

| **Density of sprayed liquid** | 0.84 | 0.96 | 1.00 Water | 1.11 Urea | 1.24 ASL | 1.28 UAN (28) UAN +S | 1.32 UAN (30) | 1.38 NP-solution | 1.44 | 1.50 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Conversion factor** | 1.09 | 1.02 | 1.00 | 0.95 | 0.90 | 0.88 | 0.87 | 0.85 | 0.83 | 0.81 |

**The following applies to conversion:** **Flow rate Water** (table value) **x Conversion factor = Actual flow rate of the medium**

## Identification of Lechler nozzles

The properties of Lechler nozzles are specified in accordance with international standards and contain the following information:

- Nozzle series
- Spray angle
- Nozzle size
- Material

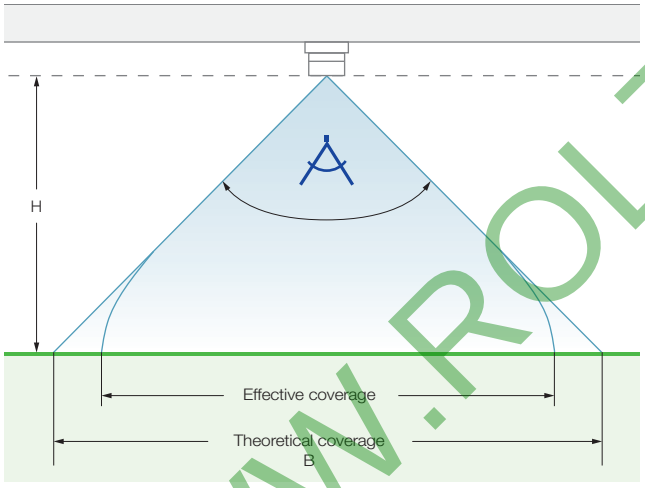
Lechler nozzles are color-coded in accordance with ISO 10625. Each nozzle color is assigned to a defined flow rate. This information is also contained in the nozzle size, e.g. -03 stands for a flow rate of 0.3 US gallons per minute at 40 psi. The nozzle material is coded with the letters S (stainless steel), M (Brass) or C (Ceramic).

## Color coding in accordance with ISO standard 19732 for filters since 2011

| Old color code Lechler | Old color code ARAG | ISO 19732 New color code | Mesh |
|---|---|---|---|
| yellow | | red | 25 |
| | white | red | 32 |
| | blue | blue | 50 |
| red | | blue | 60 |
| | gray | yellow | 80 |

Conversion table for original and new ISO color codes.

## Coverage




The theoretical coverage (B) of a nozzle is essentially determined by the spray angle and spray height (H) from the target surface. Depending on nozzle series and nozzle size, the spray pressure can also influence the spray angle and distribution accuracy.

Prerequisites for uniform liquid distribution in the spraying system are compliance with the recommended spray pressure at the nozzle as well with the minimum spray height for a given nozzle spacing.

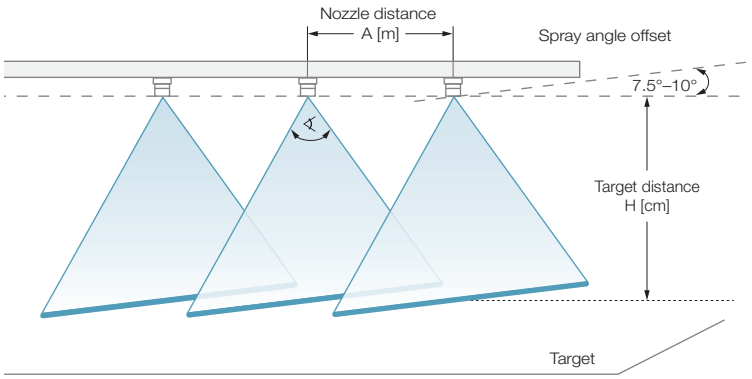
Due to the physically caused collapse of the jet, the effective coverage is less than the theoretical coverage stated below particularly with low pressures and large spray heights.

| Spray angle | Theoretical coverage B for different spray heights H in cm | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 100 | 120 |
| 20° | 3.5 | 5.3 | 7.1 | 8.8 | 10.6 | 14.1 | 17.6 | 21.2 | 24.7 | 28.2 | 35.3 | 42.0 |
| 30° | 5.4 | 8.0 | 10.7 | 13.4 | 16.1 | 21.4 | 26.8 | 32.2 | 37.5 | 42.9 | 53.6 | 64.0 |
| 45° | 8.3 | 12.4 | 16.6 | 20.7 | 24.9 | 33.1 | 41.4 | 49.7 | 58.0 | 66.3 | 82.8 | 99.0 |
| 60° | 11.6 | 17.3 | 23.1 | 28.9 | 34.6 | 46.2 | 57.7 | 69.3 | 80.8 | 92.4 | 115.0 | 138.0[1] |
| 90° | 20.0 | 30.0 | 40.0 | 50.0 | 60.0 | 80.0 | 100.0 | 120.0 | 140.0 | 160.0 | 200.0 | 240.0[1] |
| 120° | 34.6 | 52.0 | 69.3 | 86.6 | 104.0 | 139.0 | 173.0 | 208.0 | 242.0 | 277.0 | 346.0[1] | 416.0[1] |
| 140° | 55.0 | 82.4 | 110.0 | 137.0 | 165.0 | 220.0 | 275.0 | 330.0[1] | 385.0[1] | 440[1] | 550.0[1] | 660.0[1] |

[1] Large deviation between effective and theoretical coverage.

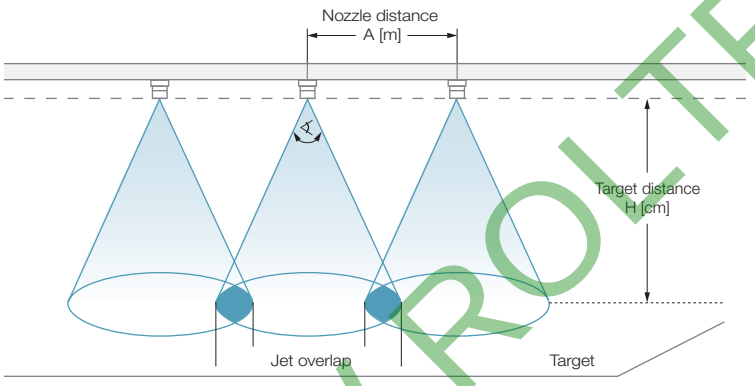
## Nozzle arrangement in the system

### Nozzle arrangement for flat spray nozzles




In order to avoid mutual spray jet interference, the jet plane of flat spray nozzles is rotated by about 7.5° to 10° with respect to the pipe axis. This takes place automatically with Lechler diaphragm valves and eyelet connectors with TWISTLOC/ MULTIJET bayonet cap. The Lechler nozzle aligner gauge (order No. **065.231.02**) is available for systems with screw/union nut fastening.

### Nozzle arrangement for hollow cone nozzles




Hollow cone nozzles must be arranged so that the jet cones just overlap shortly before the target surface.

### Recommended spray height (min. – optimal – max. [cm]) above the target surface depending on nozzle series, spray angle and nozzle spacing

| Nozzle spacing A [m] | Target surface distance (H) cm | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Flat fan nozzles | | | | | | | | | | | | | Hollow cone nozzles | Stream jet nozzles | |
| | IDTA/ID/ IDKT/AD/DF | PRE | XDT | IDK/IDKN | ID3/IDK/ AD/LU | LU | ST | QS | ST | VR | FD | FT | FT | TR/ITR | FL | FS |
| Spray angle | 120° | 130° | 130° | 120° | 90° | 120° | 110° | 80° | 80° | 130° | 130° | 90° | 140° | 80° | 160° | 100° |
| 1.0 | – | – | – | – | – | – | – | – | – | – | – | – | 75[1] | – | – | – |
| 0.5 | 40-**50**-60 | 40-**50**-60 | 30-60 | 40-**50**-60[2]/ 90 | 60-**75**-90 | 40-**50**-60 | 40-**50**-60 | 60-**75**-90 | 60-**75**-90 | 50-70 | 50-70 | 60-75-90[1] | 40[1] | – | 100 | 80-**90**-100 |
| 0.25 | 20-35 | – | – | 20-45 | 30-45 | 20-35 | 20-35 | 30-45 | 30-45 | – | – | 30-45[1] | – | 50–**65**–80 | – | – |

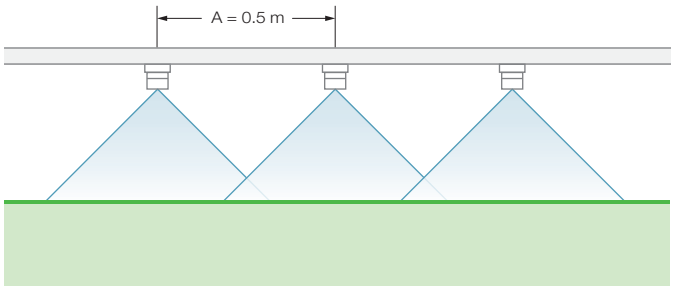
[1] The spray height of flood nozzles is also influenced by the alignment. At least single spray width overlap is required for uniform lateral distribution. Rule of thumb: With nozzle spacings other than those stated (A), the ratio of nozzle spacing to optimum spray height is 1:1 for flat spray nozzles with a spray angle of 110°/120° and 1:1.5 for nozzles with a spray angle of 80°/90°.

[2] IDK 120-06 to -10.

## Calculation formula for arable crop applications

### Application parameters for system arrangement

The table values in the technical part of the catalog apply for field spraying booms with a lateral nozzle spacing of A = 0.5 m. The adjacent formulas apply for other lateral nozzle spacings.




### As a general rule:

Of the four parameters sprayer speed [km/h], application rate [l/ha], flow rate [l/min] and nozzle spacing [cm], three are normally known. The frequently unknown variables [l/ha] and [ l/min] are also calculated using the adjacent formulas.

**Liter per hectare rate M** [l/ha]

$$M = \frac{600 \times \dot{V}}{A \times v_F}$$

**Flow rate/nozzle $\dot{V}$** [l/min]

$$\dot{V} = \frac{1}{600} \times M \times A \times v_F$$

**Lateral nozzle spacing A** [m]

**Sprayer speed $v_F$** [km/h]

**Example for calculation of flow rate per nozzle:**

A = 1 m, $v_F$ = 6 km/h, M = 400 l/ha

$$\dot{V} = \frac{400 \times 1 \times 6}{600} = 4 \text{ l/min}$$

### Application parameters for band spraying

**Band width B** [m]
**Lateral nozzle spacing or row spacing A** [m]

$$\frac{B}{A} \times 100 =$$ treated (sprayed) area as a percentage share of total gross covered area

Calculation of the actual application quantity for band or row spraying is based on the ratio of the treated area and the area to be driven over.

The application quantity in l/ha corresponds to the percentage (e.g. 40 %) of the application quantity for broadcast spraying.

Example:

$$\frac{0.2}{0.5} \times 100 = 40\,\%$$

### Good to know

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

**Nozzle calculator app**

## Calculation formula for viticulture, orchard and special crops

### Sprayer equipment with nozzles of the same size

The flow rate of the individual nozzles is calculated by dividing the total nozzle output by the number of working nozzles. The nozzle size and pressure are determined from the flow rate on the basis of the tables (see Page 72–81). The working width corresponds to the distance between the driving lanes, i.e. it corresponds to the row spacing if every driving lane is used. If only every second driving lane is used, the working width corresponds to double the row spacing.

$$\dot{V} = \frac{M \times v_F \times B}{600}$$

**$\dot{V}$ = Total nozzle output** [l/min]

**M = Liter per hectare rate** [l/ha]

**$v_F$ = Sprayer speed** [km/h]

**B = Working width/row spacing** [m]

## Sprayer equipment with nozzles of different sizes

If nozzles with different sizes are used simultaneously in one sprayer, the nozzle size is first determined that would be obtained in the case of equipment with nozzles offering identical performance. The number of nozzles of the next-smaller nozzle size is taken into account corresponding to the total number of nozzles. In order to achieve the given liquid application rate (required value), the pressure must be increased in accordance with the adjacent formula.

$$\text{Pressure setpoint} = \text{Pressure actual value} \times \left[\frac{\text{Total nozzle output setpoint}}{\text{Total nozzle output actual value}}\right]^2$$

**Example:**
With a sprayer speed of 6.5 km/h, the required delivery is 600 l/ha. The working width is 2.0 m. The total nozzle output of the sprayer is then:

$$\frac{600 \times 6.5 \times 2.0}{600} = 13.0 \text{ l/min}$$

If 10 nozzles with the same nozzle size are used, the flow rate of each nozzle is 13.0 : 10 = 1.3 l/min.

Select nozzle/pressure according to spray table:

**ID-90-02/yellow at 8.0 bar**

Instead of the nozzle ID-90-02, the lower and two upper nozzles should be fitted with the next-smaller nozzle size 6 x ID-90-015/green on both sides of the sprayer. The total nozzle output (actual value) is as follows at 8.0 bar (actual value):

**(6 x 0.96 + 4 x 1.30) l/min = 10.96 l/min**

The pressure setpoint to be set for 600 l/ha (setpoint) is then:

$$8 \times \left[\frac{13.0}{11.0}\right]^2 = 11.2 \text{ bar}$$

**Good to know**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

**Nozzle calculator app**

## Quality means being measured by results

Approved Lechler nozzles for arable crops as well as for viticulture, orchard and specialty crop applications always reliably meet the requirements of the Julius Kühn Institut (JKI) and other international standards.

Lechler nozzles therefore fulfill all prerequisites of German and European plant protection legislation as well as ISO 16119 (Environmental requirements for sprayers) and ISO 16122 (Inspection of sprayers in use).



## Droplet sizes

The droplet sizes for nozzles used for the application of pesticides are usually characterized by the Mean Volumetric Diameter (MVD) and are specified in micrometers (µm). An MVD of 400 µm means that 50 % of the volume is sprayed in the form of droplets larger than 400 µm and 50 % in the form of droplets smaller than 400 µm. This means that not all droplets are of the same size.

When classifying the droplet spectrum of a nozzle into the classes “fine”, “medium”, and “coarse”, etc., Lechler worked according to the specifications of BCPC (British Crop Production Council) until 2019. Since 2020, the spray pattern has been assessed in accordance with the new ISO standard 25358.

This makes it easier to compare measurements, even if the measurement technology and thus possibly also the absolute measured values (µm) differ. The reference nozzles, pressures and uniform color coding of the droplet size classes have been redefined. The droplet size class “Ultra coarse” has been added. As a result, the ranges of the droplet size classes have been redefined and are now much smaller in comparison with the classification according to BCPC.

### What does this change for the farmer?

The nozzles and also the droplets and wetting remain the same. The only change is in the referencing system. The classification of the droplet size classes for the injector nozzles thus changes. This lead to a shift of 1 to 2 droplet size classes in the direction of coarser (e.g. previously “Medium” and now “Coarse” or “Very coarse”). The additional droplet size class “Ultra coarse” divided the old droplet size class “Extremely coarse” into two classes.

### Good biological effect with “Coarse”, “Very coarse” or even “Extremely coarse”?

With an injector nozzle and a water volume of e.g. 200 l/ha with an MVD of 400 µm (0.4 mm), this spray pattern was classified as “Coarse” according to the BCPC classification; this is “Very coarse” according to ISO 25358 from 2020. Coverage is ensured by half of the water quantity (100 l/ha) in the form of coarse, medium and fine droplets below the mean value of 400 µm. In comparison, very coarse and extremely coarse droplets transport more active ingredient to the target.

## Droplet size classification

| BCPC (up to 2019) | ISO 25358 (from 2020) | |
|---|---|---|
| VF | VF | Very fine |
| F | F | Fine |
| | M | Medium |
| M | C | Coarse |
| C | VC | Very coarse |
| VC | | |
| UC | EC | Extremely coarse |
| | UC | Ultra coarse |


Conversion from BCPC to ISO 25358.



### The result

**Good biological effect and good drift reduction**

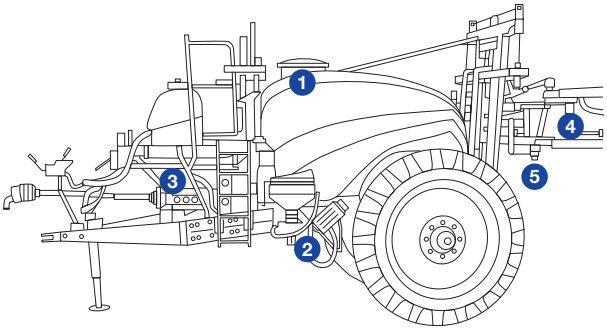
Even if the classification “Very coarse” is often compared with raindrops, their droplet size of 2,000–3,000 µm (2–3 mm) means that the latter are many times larger than the droplets from a nozzle with an extremely coarse droplet size. The above table/graphic representation compares the two measuring methods and therefore allows a direct comparison between the previous (BCPC) and new methods (ISO 25358).

# FUNDAMENTALS OF NOZZLE TECHNOLOGY
## PRACTICAL TIPS

### Filter correctly

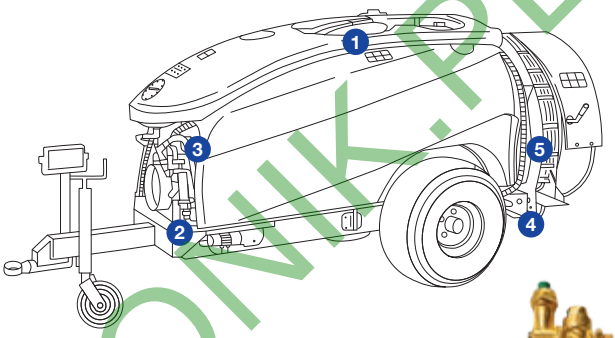
Malfunctions during operation caused by coarse particles can be prevented by use of the correct filter system. In order to protect the nozzle filter, we recommend selecting a mesh filter in the line strainer which is one category finer. The recommendations for the mesh size (M) of the nozzle cup strainer are provided in the spray tables according to nozzle size.

Scheme for selecting the mesh size using the example of a field sprayer:




1 Filling sieve 16 M
2 Suction strainer 30/50 M
3 Line strainer fitting 50/80 M
4 Optional line strainer in partial widths 50/80 M
5 Nozzle strainer 25/60/80 M

Scheme for selecting the mesh size using the example of a sprayer for viticulture and orchards:




1 Filling sieve 16 M
2 Suction strainer 30/50 M
3 Line strainer 50/80 M Recommendation: Flushing valve
4 Optional: Line strainer 50/80 M
5 Cup strainer 25/60 M

### Avoid nozzle blockages

Properly functioning equipment is a prerequisite for successful crop protection. Clogged nozzles mean lost time and can lead to incorrect spray application. The following tips help to avoid mistakes.

**Correct procedure:**

- Observe the specified order when producing the spray mixture
- Always add only one product at a time
- Allow sufficient time to dissolve
- The mixer must guarantee good and homogeneous mixing of the plant protection product
- Match the filter in the equipment to the nozzle size
- Clean after use, e.g. with continuous internal cleaning
- Pay attention to water quality in relation to solubility of plant protection products

### Troubleshooting for nozzles

| | |
|---|---|
| **Nozzle clogged** | clean |
| **Nozzle damaged** | replace |
| **Nozzle worn** | replace |
| **Wrong nozzle (type/size)** | replace |
| **Filter clogged** | clean |
| **Diaphragm valve defective** | replace |

## Nozzle wear

Nozzles become worn even if used properly and thus have a limited service life.

Wear is determined by factors such as spray pressure, abrasiveness of the spray fluid and the nozzle material. Damage to the nozzle tip, due to incorrect cleaning or handling for example, must be avoided under all circumstances.

A simple way of determining the wear of nozzle tips is to gauge the flow rate using a measuring jug, stop watch and pressure gauge on the nozzle line (see below). The flow rates of the used nozzles are compared here with the table values of new nozzles of the same size. The nozzles in use should be replaced as soon as the actual flow rate exceeds the table value by more than 10 % in field sprayers and more than 15 % in air blast sprayers.

All table values in this catalog specify the flow rates of new nozzles.

In addition, equipment testing of field sprayers on a nozzle test bench also provides information about the nozzle condition in relation to cross distribution, whereby the quality of cross distribution and the change in flow rate may be interdependent with respect to the calculated coefficient of variation.

The wear resistance of the nozzle material increases in the following order:

**Brass** → **Stainless steel** → **Plastic** → **Ceramic**

### Correct output measurement

A sprayer will deliver the desired product quantity per hectare only if it is correctly adjusted. The easiest method for checking this yourself is measurement of the individual nozzle output. A nozzle used in field sprayers is considered to be worn when the individual nozzle output is 10 % above the value in the spray table. The pressure range and pressure drop must be taken into account.

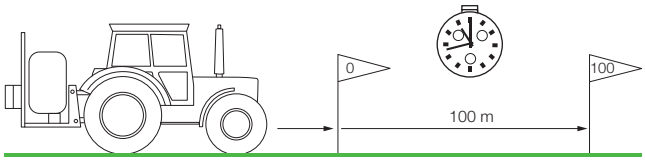
Output measurement is also necessary for flow-controlled devices.
Source: Bildungswerkstatt Mold, Pichler Herbert

## Measuring the driving speed

**60 s = 6.0 km/h**
**45 s = 8.0 km/h**
**36 s = 10.0 km/h**

Example:

$$\frac{\textbf{100 m x 3.6}}{\textbf{45 s}} = \textbf{8.0 km/h}$$




## Thread table and pipe diameters

| Compatibility of pipe threads | | | Female thread | | | |
|---|---|---|---|---|---|---|
| | | | DIN EN 10226 | | ISO 228 | NPT |
| | | | Rc | Rp | G | |
| Male thread | DIN EN 10226 | R | ● | ● | ●[1] | |
| | ISO 228 | G | | | ● | |
| | NPT | | | | | ● |

**Code for pipe diameters:**

| | |
|---|---|
| 20 mm | 20 mm |
| 1/2" | 21 mm |
| 25 mm | 25 mm |
| 3/4" | 27 mm |
| 1" | 34 mm |

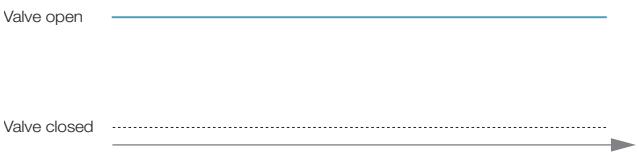
● = compatible
Taper thread: R, Rc, NPT
Parallel thread: Rp, G

[1] Leakage possible! Flat seal recommended.

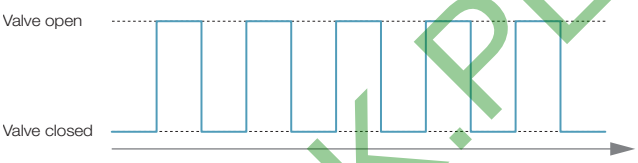
# FUNDAMENTALS OF NOZZLE TECHNOLOGY
## PULSE WIDTH MODULATION

Pulse width modulation (PWM) is a current application trend for plant protection products. Whereas conventional nozzles are always open, a solenoid valve opens and closes the valve 10 to 30 times per second here. The frequency is either predefined or is defined in the basic settings. It is not decisive for the nozzle selection.

The duty cycle (DC) specifies the time ratio between open and closed valve as a percentage. It is an important variable for good lateral and longitudinal distribution of the sprayed liquid. The valve is open continuously with a duty cycle of 100 % – like with conventional nozzles. If the duty cycle is reduced to 50 %, the flow rate is also halved – with a constant pressure.




**Duty cycle (DC) 100 %:**
The valve is continuously open.




**Duty cycle (DC) 50 %:**
The nozzle is alternately closed and open for equal periods of time.

An example: With a duty cycle (DC) of 50 %, the applied quantity for nozzle size 06 (gray) corresponds to the quantity of a nozzle size 03 (blue) without PWM. Nozzles are ideally used with a duty cycle (DC) of 30 %–100 %.

**PWM technology is particularly advantageous for the following applications:**

- Individual nozzle switching and control with variable flow rate
- Constant droplet size and application quantity with variable working speed
- Drift reduction and uniform wetting quality with constant droplet size
- Curve compensation to avoid underdosing and overdosing at the outer and inner parts of the boom, e.g. when driving round obstacles
- Variation of application quantity for area-specific application
- Large flow rate control range of a nozzle without a significant change in the droplet size
- Spot spraying – for precise small-area application of plant protection products

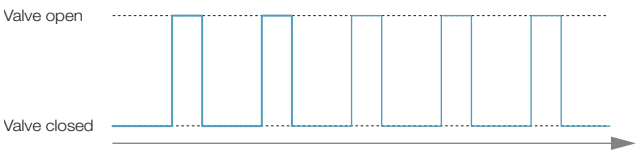
### Tested and approved

Lechler agricultural nozzles were tested with PWM valves in an extensive test program. JKI approvals for PWM valves with different nozzle types are available. The drift reduction is based on the nozzle entries in the “Register of loss-reducing equipment”: same drift reduction class for duty cycle (DC) 100 % or one drift reduction class lower for “pulsing”.

Lechler flat fan, double flat fan and liquid fertilizer nozzles are generally suitable for PWM. This includes the series LU, AD and XDT without injector as well as ID, IDTA, IDK/IDKN and IDKT with injector and liquid fertilizer nozzles FD, FS.

### The correct nozzle size ensures successful application

If the nozzle size is too small, there is an upper limit for the application quantity or possible speed. The PWM system can open by a maximum of 100 % and then possibly increase the pressure. There is a risk of drift if the pressure exceeds the recommended pressure for the nozzle.




**Duty cycle (DC) 30 %:**
The nozzle does not deliver any plant protection product for 70 % of the time.

The PWM system can compensate for an excessively large nozzle size by means of a lower duty cycle of 50 %–30 %, for example, and a reduction in the pressure range. The risk of more uneven distribution of the liquid in longitudinal and lateral direction as well as lower wetting due to the coarser droplet spectrum must be taken into account. The distribution may not be optimal particularly at higher speeds above 10 km/h and with a duty factor of less than 40 %.

| | | DC PWM | | [l/ha] 0,5m | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | [l/min] | 6.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h | 20.0 km/h |
| 06 | 1 | 100 | 1.36 | 272 | 204 | 163 | 136 | 117 | 102 | 91 | 82 |
| | | 70 | 0.95 | 190 | 143 | 114 | 95 | 82 | 71 | 63 | 57 |
| | | 50 | 0.68 | 136 | 102 | 82 | 68 | 58 | 51 | 45 | 41 |
| | | 30 | 0.41 | 82 | 61 | 49 | 41 | 35 | 31 | 27 | 24 |
| | 2 | 100 | 1.93 | 386 | 290 | 232 | 183 | 165 | 145 | 129 | ***116*** |
| | | 70 | 1.35 | 270 | 203 | 162 | 135 | ***116*** | 101 | 90 | 81 |
| | | 50 | 0.97 | 193 | 145 | ***116*** | 97 | 83 | 72 | 64 | 58 |
| | | 30 | 0.58 | ***116*** | 87 | 69 | 58 | 50 | 43 | 39 | 35 |
| | 3 | 100 | 2.36 | 472 | 354 | 283 | 236 | 202 | 177 | 157 | ***142*** |
| | | 70 | 1.65 | 330 | 248 | 198 | 165 | ***142*** | 124 | 110 | 99 |
| | | 50 | 1.18 | 236 | 177 | ***142*** | 118 | 101 | 89 | 79 | 71 |
| | | 30 | 0.71 | ***142*** | 106 | 85 | 71 | 61 | 53 | 47 | 42 |
| | 4 | 100 | 2.73 | 546 | 410 | 328 | 273 | 234 | 205 | 182 | 164 |
| | | 70 | 1.91 | 382 | 287 | 229 | 191 | 164 | 143 | 127 | 115 |
| | | 50 | 1.37 | 273 | 205 | 164 | 137 | 117 | 102 | 91 | 82 |
| | | 30 | 0.82 | 164 | 123 | 98 | 82 | 70 | 61 | 55 | 49 |
| | 5 | 100 | 3.05 | 610 | 458 | 366 | 305 | 261 | 229 | 203 | ***183*** |
| | | 70 | 2.14 | 427 | 320 | 256 | 214 | ***183*** | 160 | 142 | 128 |
| | | 50 | 1.53 | 305 | 229 | ***183*** | 153 | 131 | 114 | 102 | 92 |
| | | 30 | 0.92 | ***183*** | 137 | 110 | 92 | 78 | 69 | 61 | 55 |
| | 6 | 100 | 3.34 | 668 | 501 | 401 | 334 | 286 | 251 | 223 | ***200*** |
| | | 70 | 2.34 | 468 | 351 | 281 | 234 | ***200*** | 175 | 156 | 140 |
| | | 50 | 1.67 | 334 | 251 | ***200*** | 167 | 143 | 125 | 111 | 100 |
| | | 30 | 1 | ***200*** | 150 | 120 | 100 | 86 | 75 | 67 | 60 |
| | 8 | 100 | 3.86 | 772 | 579 | 463 | 386 | 331 | 290 | 257 | 232 |
| | | 70 | 2.7 | 540 | 405 | 324 | 270 | 232 | 203 | 180 | 162 |
| | | 50 | 1.93 | 386 | 290 | 232 | 193 | 165 | 145 | 129 | 116 |
| | | 30 | 1.16 | 232 | 174 | 139 | 116 | 99 | 87 | 77 | 69 |

Based on the example of the above table for nozzle size 06 it is possible to clearly see the relationship between sprayer speed and duty cycle.

## Determination of nozzle size

The flow rate control range of a nozzle is significantly increased with PWM. Selection of the correct nozzle size therefore requires a different approach. Ideally, the nozzle size is determined for a duty cycle of 70 % and average sprayer speed.

With a constant pressure in the boom, this allows the flow rate of a nozzle to be increased or reduced by 30 % respectively – in the range from 100 % to 40 %.

**Rule of thumb:**

**Nozzle size x 1.5 = nozzle size for PWM**

If a nozzle of size 04 is used without PWM technology, size 06 would be the recommended nozzle size with PWM technology with otherwise unchanged application conditions. The recommended pressure ranges of the nozzle series also apply for PWM.

## Good to know

You can find lists of the PWM nozzles that have been included in the JKI “Directory of loss-reducing equipment” on our website.

**Current list at:**
**www.lechler.com/de-en/service/loss-reducing**

# APPLICATIONS AT A GLANCE

**Efficient in every environment.** There is a guiding principle that can be found in all agricultural technology products from Lechler:
We want to help
- to achieve the best result
- in the shortest time
- with the minimum product consumption.

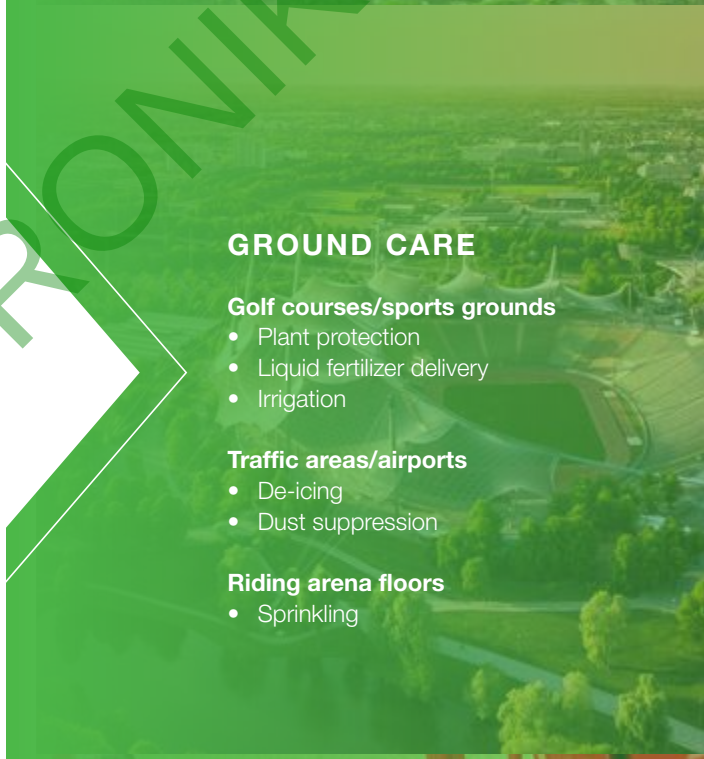
No matter whether for environmentally-friendly application of plant protection products, demand-oriented liquid fertilizer delivery in crop production, uniform and controlled atomization in ground care or fast and thorough tank cleaning: We are ready for every challenge.

## CROP PRODUCTION

**Arable crops**
- Plant protection
- Liquid fertilizer delivery

**Bush and tree crops**
- Plant protection

**Horticulture**
- Plant protection
- Liquid fertilizer delivery
- Irrigation



## GROUND CARE

**Golf courses/sports grounds**
- Plant protection
- Liquid fertilizer delivery
- Irrigation

**Traffic areas/airports**
- De-icing
- Dust suppression

**Riding arena floors**
- Sprinkling

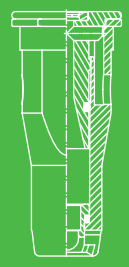
## TANK CLEANING

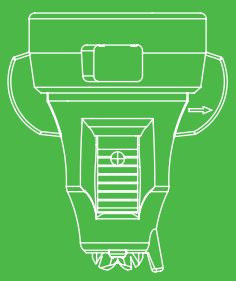
- Cleaning
- Mixing
- Induction

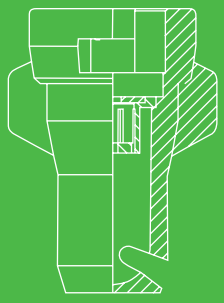
# CROP PRODUCTION

When it comes to sustainable crop production, it is nowadays necessary to observe and compare a very wide range of differing requirements: international guidelines, national regulations, biological effectiveness, ecology, economy ...

In addition to these requirements, efficient application of all plant protection products and liquid fertilizer delivery that is gentle on the plants must naturally be guaranteed. At Lechler, we focus all our attention on combining these requirements in the optimum nozzle for your purposes.







# NOZZLES FOR CROP PRODUCTION



## TECHNICAL REQUIREMENTS

Optimum application of plant protection products is guaranteed only if narrow flow rate tolerances and uniform distribution are ensured. These parameters are laid down in the JKI and ENTAM guidelines and in the corresponding EN/ISO standards on European and international level.

In the case of JKI-approved Lechler nozzles, the volume flow of new nozzles may deviate from the table value by a maximum of +/–5 %. This applies to spraying both field crops as well as bush and tree crops.

In combination, new JKI-recognized Lechler nozzles must guarantee the most uniform cross distribution possible. The coefficient of variation over the entire width of the spray boom must not exceed 7 % in the specified pressure range and with the corresponding spray heights.

## BIOLOGICAL REQUIREMENTS

In order to achieve the optimum effect, application of plant protection products must be extremely precise. Lechler precision nozzles achieve exact dosage and uniform distribution. Independently of this, the recommendations of the plant protection product manufacturers with respect to l/ha quantities must always be observed. Determination of the application area before use is of decisive importance for optimum deposition of the plant protection product.

Delivery takes place via flat fan and double flat fan nozzles. Flat fan nozzles generally achieve good crop penetration (e.g. mildew control in cereal crops). In contrast, double flat fan nozzles are recommended for optimum deposition on vertical target surfaces (e.g. grass control, ear treatment) and to reduce spray shadow (e.g. direct seed, cloddy soil).

## ENVIRONMENTALLY-RELEVANT REQUIREMENTS

The wind and thermal currents can cause some of the droplets containing the active ingredients to miss the target area. This drift can pollute or damage adjacent crops, contaminate nearby waters and pose a risk to both humans and animals. In addition, drift frequently leads to incorrect dosages for the crop being treated.

The causes of drift depend on equipment-specific and meteorological factors such as:

- Droplet size
- Sprayer velocity
- Spray height
- Wind speed
- Air temperature
- Air humidity

## LOSS-REDUCING EQUIPMENT

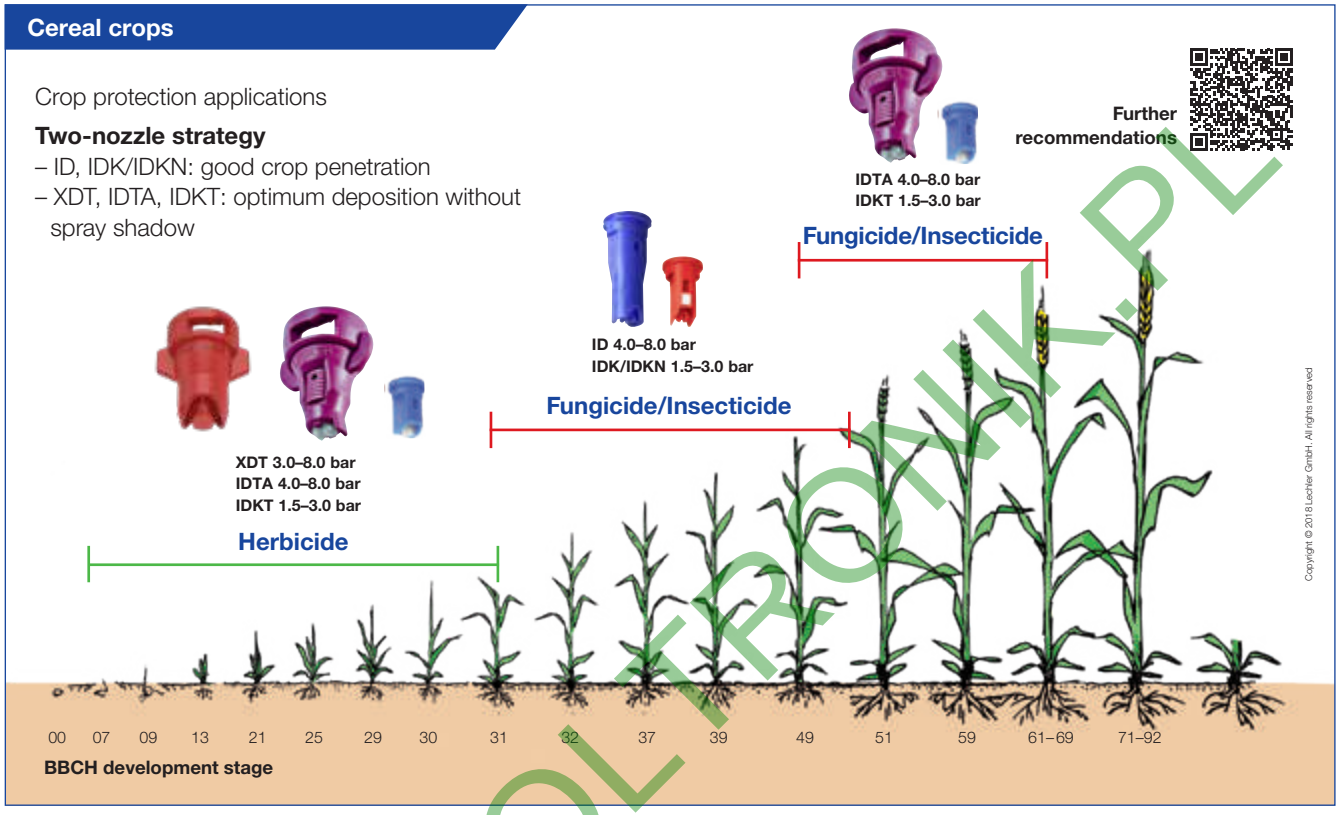
Application regulations for plant protection products, e.g. distance restrictions to water and field boundary structures, have been defined in order to protect non-target organisms. Depending on the toxicity of the plant protection product, the distances from water and field boundaries can be reduced with loss-reducing equipment, e.g. with air injector nozzles.

Lechler nozzles are officially approved in many European countries as drift-reducing devices in the drift reduction classes 99/95/90/75/66/50 and 25 %. The criteria on which the distance regulations are based in the individual countries comprise, among other things, the nozzle technology, water type, bank vegetation, width of the field boundary, mixture concentration, process technology (e.g. pressure) as well as external influences such as wind direction, wind speed and temperature.

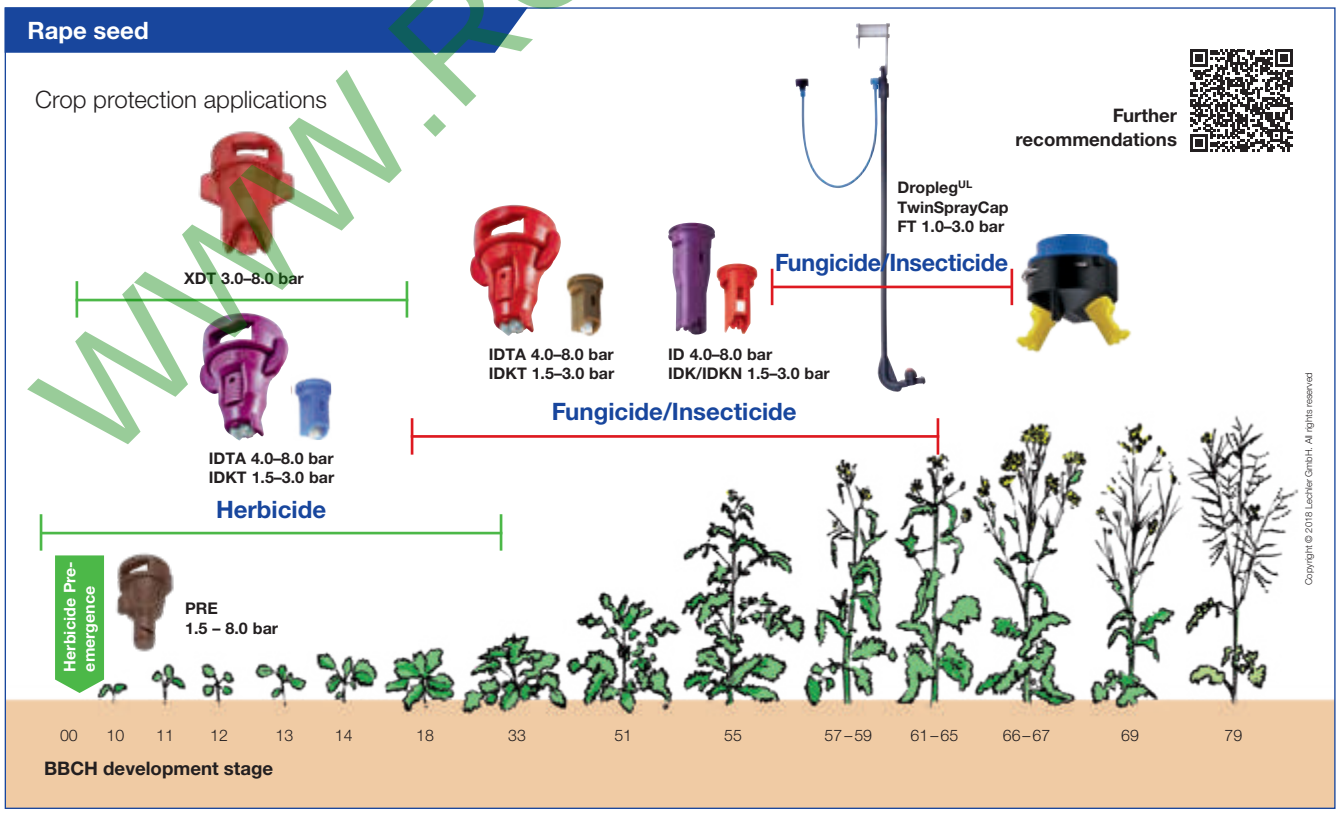
Drift-reducing Lechler nozzles allow areas to be used more efficiently while at the same time protecting field boundaries and water.

# Nozzle recommendations
# for plant protection/herbicide applications

## Cereal crops

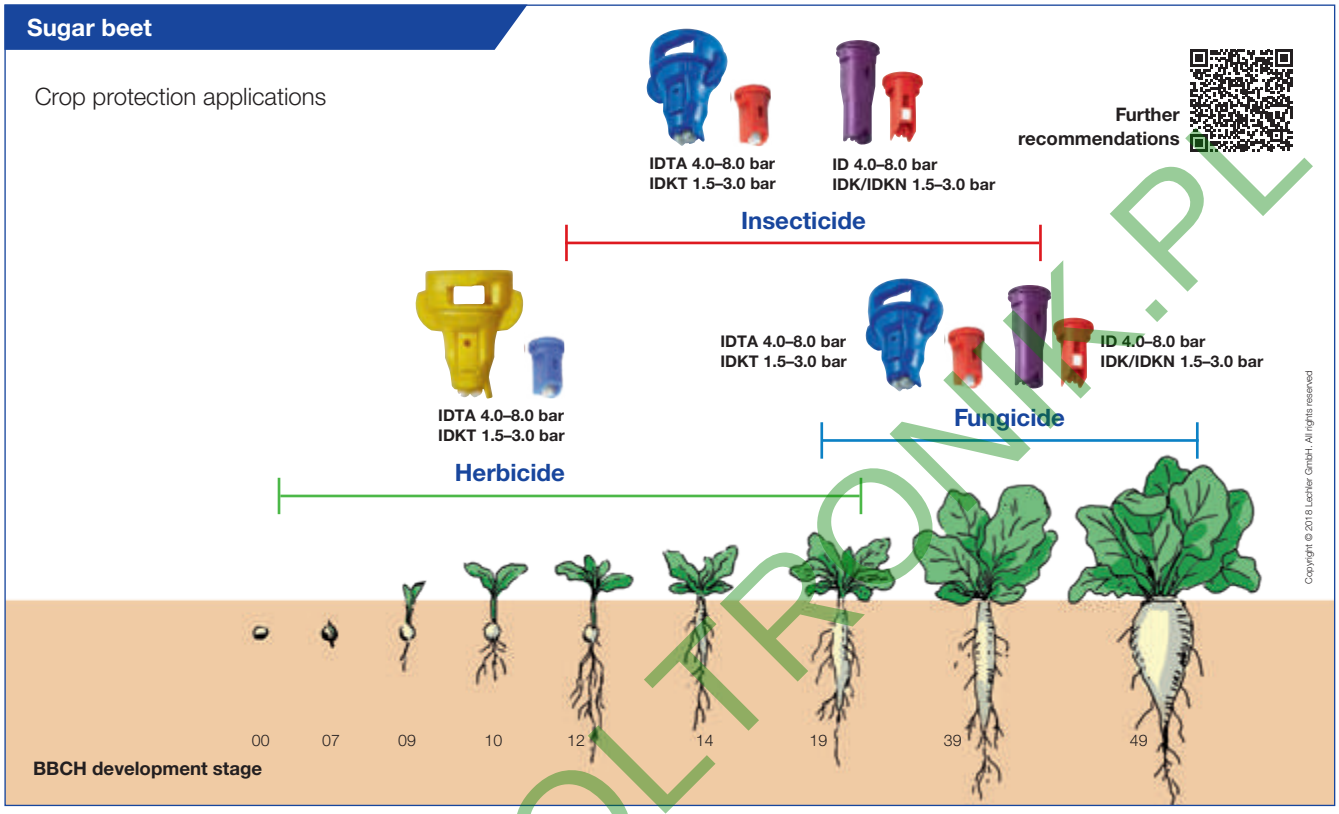



## Rape seed



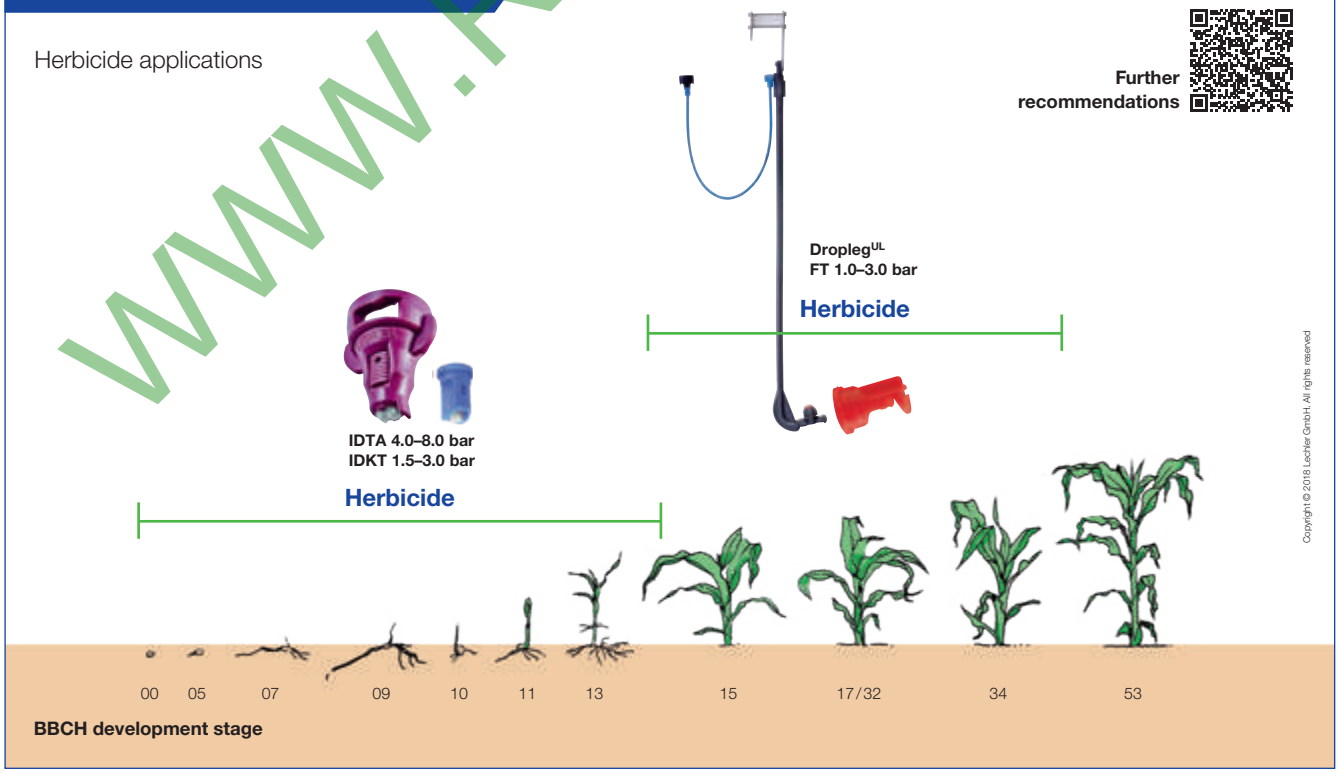
## Sugar beet

Crop protection applications




## Corn

Herbicide applications



# Nozzles for crop production
## Overview


| Series | ID | IDK/IDKN | IDTA | IDKT | PRE | AD | QS | LU | ST/SC | XDT | DF | FT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Spray angle** | 120/90 | IDK 120/90<br>IDKN 120 | 120 | 120 | 130 | 120/90 | 80 | 120/90 | ST 110/80<br>SC 110 | 130 | 120 | 140/90 |
| **Information on Page** | 46 | 48 | 62 | 64 | 50 | 52 | 56 | 54 | 58 | 60 | 66 | 70 |
| **Drift reduction** | ++ | + | ++ | + | +++ | o | o/– | o/– | – | +++ | –– | +(–) |
| **Spray geometry** | | | | | | | | | | | | |

### Arable crops

| | | ID | IDK/IDKN | IDTA | IDKT | PRE | AD | QS | LU | ST/SC | XDT | DF | FT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Recommended pressure range [bar] | | 2/3*–**4–8** | 1**/**1.5–3**–6 | 1–**4–8** | 1***/**1.5–3**–6 | **1.5–8** | **1.5–3**–6 | **1.5–5** | **1.5–2.5**–5 | **2–3**–5 | 1.5–**3–8** | **2–3**–5 | **1–3**–6(**1–2**–3) |
| Herbicides | Soil incorporated | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ● | ●● | | ●● |
| | Pre-emergence | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ● | ●● | | ●● |
| | Post-emergence (systemic) | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ● | ●● | ○ | ● |
| | Post-emergence (contact) | ● | ● | ●● | ●● | | ● | ●● | ●● | ● | ● | ●● | ● |
| Fungicides | Contact | ● | ● | ●● | ●● | | ● | ●● | ●● | ● | | ●● | ● |
| | Systemic | ●● | ●● | ●● | ●● | | ●● | ●● | ●● | ● | | ● | ● |
| Insecticides | Contact | ● | ● | ●● | ●● | | ● | ●● | ●● | ● | | ●● | ● |
| | Systemic | ●● | ●● | ●● | ●● | | ●● | ●● | ●● | ● | | ● | ● |
| Liquid fertilizer | | ●●(2–4) | ●●(1**/1.5–2.5) | ○(1–4) | ○(1***/1.5–2.5) | ●●(1.5–4) | ●(1.5–2.5) | ○(1.5–2) | ○(1.5–2) | ○(2) | | | ●(1–2) |
| Growth regulators | | ●● | ●● | ○ | ○ | | ●● | ● | ● | ● | | ○ | ● |
| Irrigation | | ●● | ●● | ●● | ●● | ●● | ●● | ● | ● | ● | ●● | | |

### Arable crops and specialty/row crops

| | | ID | IDK/IDKN | IDTA | IDKT | PRE | AD | QS | LU | ST/SC | XDT | DF | FT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Recommended pressure range [bar] | | | | | | | | | | | | | |
| Herbicides | Soil incorporated | | | | | | | | | | | | |
| | Pre-emergence | | | | | | | | | | | | |
| | Post-emergence (systemic) | | | | | | | | | | | | |
| | Post-emergence (contact) | | | | | | | | | | | | |
| Fungicides | Contact | | | | | | | | | | | | |
| | Systemic | | | | | | | | | | | | |
| Insecticides | Contact | | | | | | | | | | | | |
| | Systemic | | | | | | | | | | | | |
| Liquid fertilizer | | | | | | | | | | | | | |
| Growth regulators | | | | | | | | | | | | | |
| Irrigation | | | | | | | | | | | | | |

### Viticulture, orchard and specialty crops

| | | ID | IDK/IDKN | IDTA | IDKT | PRE | AD | QS | LU | ST/SC | XDT | DF | FT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Recommended pressure range [bar] | | | | | | | | | | 5–**10–30** | | | |
| Fungicides | Contact | | | | | | | | | ●● | | | |
| | Systemic | | | | | | | | | ●● | | | |
| Insecticides | Contact | | | | | | | | | ●● | | | |
| | Systemic | | | | | | | | | ●● | | | |
| Growth regulators | | | | | | | | | | ●● | | | |

Observe specifications of product manufacturers.

Nozzle sizes: * ID-01/-015 ** IDK 04/-05/-06/-08/-10 IDKN 03/-04 *** IDKT 03/-04/-05/-06/-08/-10 **** FS 10/-15 ***** IDKS 03/-04/-05/-06

| | NEW | | NEW | | NEW | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| | **TR** | **ITR** | **VR** | **FD** | **FB** | **FL** | **FS** | **IS** | **IDKS** | **BN** | **OC (S)** | **E** | **ID** | **IDK** | **AD** |
| | 80/60 | 80 | 130 | 130 | 100 | 160 | 100 | 80 | 80 | 100 | 90 | 80 | 90 | 90 | 90 |
| | 78 | 80 | 82 | 84 | 86 | 90 | 88 | 94 | 96 | 98 | 100 | 104 | 72 | 74 | 76 |
| | −− | ++ | +++ | +++ | +++ | +++ | +++ | ++ | + | − | − | − | ++ | + | o |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| | **3–8** | 3–**5–10** | **2–8** | **1.5–4** | **1.5–4** | **1–5** | **1–3****/4** | 2–**4–8** | 1*****/**1.5–3**–6 | | **1.5–2.5**–5 | | **2–8** | **1.5–8** | **1.5–3**–6 |
| | ○ | ●● | | | | | | ●● | ●● | | ●● | | ●● | ●● | ●● |
| | ○ | ○ | | | | | | ●● | ●● | | ●● | | ●● | ●● | ●● |
| | ○ | ○ | | | | | | ●● | ●● | | ●● | | ●● | ●● | ●● |
| | ●● | | | | | | | ● | ● | | ●● | | ● | ● | ● |
| | ●● | ○ | | | | | | ● | ● | | ●● | | ● | ● | ● |
| | ● | ● | | | | | | ●● | ●● | | ●● | | ●● | ●● | ●● |
| | ●● | ○ | | | | | | ● | ● | | ●● | | ● | ● | ● |
| | ● | ● | | | | | | ●● | ●● | | ●● | | ●● | ●● | ●● |
| | | ●●(3–5) | ●● | ●● | ●● | ●● | ●● | ●●(2–4) | ●●(1*****/1.5–2.5) | | ○(1.5–2) | | ●●(2–4) | ●●1.5–2.5) | ●●1.5–2.5) |
| | ○ | ○ | | | | | | ●● | ●● | | ● | | ●● | ●● | ●● |
| | | ● | ●● | ●● | ●● | ● | | ●● | ●● | | ● | | ●● | ●● | ●● |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **3–8** | | | | | | | 2–**4–8** | 1*****/**1.5–3**–6 | 1–2–**4–6** | **1.5–2.5**–5 | **1–3**–4 | | | |
| | ○ | | | | | | | ●● | ●● | ●● | ●● | ●● | | | |
| | ○ | | | | | | | ●● | ●● | ●● | ●● | ●● | | | |
| | ○ | | | | | | | ●● | ●● | ●● | ●● | ●● | | | |
| | ●● | | | | | | | ● | ● | ●● | ●● | ●● | | | |
| | ●● | | | | | | | ● | ● | ●● | ●● | ●● | | | |
| | ● | | | | | | | ●● | ●● | ●● | ●● | ●● | | | |
| | ●● | | | | | | | ● | ● | ●● | ●● | ●● | | | |
| | ● | | | | | | | ●● | ●● | ●● | ●● | ●● | | | |
| | | | | | | | | ●●(2–4) | ●●(1*****/1.5–2.5) | ○(1–2) | ○(1.5–2) | ○(1–2) | | | |
| | ○ | | | | | | | ●● | ●● | ●● | ●● | ● | | | |
| | | | | | | | | ●● | ●● | ●● | ● | ● | | | |

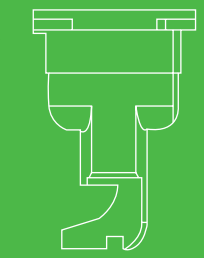
| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3–**8–20** | **10–30** | | | | | | | 2–**8–15** | 1*****–/1.5–**8–15** | | | | 2–**8–15**–20 | 2–**8–15**–20 | 2–**8–15**–20 |
| ●● | ● | | | | | | | ●● | ●● | | | | ●● | ●● | ●● |
| ●● | ●● | | | | | | | ●● | ●● | | | | ●● | ●● | ●● |
| ●● | ● | | | | | | | ●● | ●● | | | | ●● | ●● | ●● |
| ●● | ●● | | | | | | | ●● | ●● | | | | ●● | ●● | ●● |
| ●● | ● | | | | | | | ●● | ●● | | | | ●● | ●● | ●● |

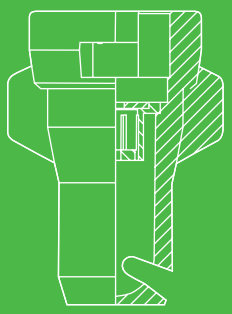
− − = not drift-reducing  − = slightly drift-reducing  o = drift-reducing  + = very drift-reducing  + + = highly drift-reducing  + + + = extremely drift-reducing

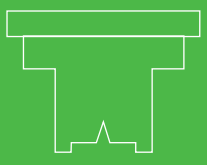
●● = very well-suited  ● = well-suited  ○ = less well-suited

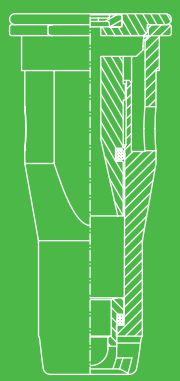
# GROUND CARE

Lechler nozzles for ground care are used wherever it is necessary to uniformly spray large public or traffic areas, for example. Our wide product range offers a suitable solution for every application.









# NOZZLES FOR GROUND CARE



## EVERYTHING COVERED

Lechler offers a wide range of nozzles and accessories for ground care. Various designs are available that are matched to the task in hand, ranging from solid stream and hollow cone nozzles through to flat fan and wide-throw nozzles. The main selection criteria are economy, efficiency and user protection.

Alongside delivery of plant protection products and nutrients in green urban spaces, the other varied tasks include dust suppression, de-icing, hot-water treatment, etc.

# THE ENTIRE RANGE OF GROUND CARE APPLICATIONS

Ground care includes all municipal green areas (e.g. parks) as well as traffic areas (e.g. railroad tracks, airports, roads), golf courses, sports grounds and riding arenas. The applications are therefore very different and varied. They extend from pest control through to dust suppression and surface de-icing. The equipment used covers a wide range – from simple back spraying through to high-tech systems for airport de-icing.

In view of the sometimes considerable amount of sprayed product, efficiency, durability and cost control are key factors for economic operation. With our wide, solution-oriented product range, we ensure that the best-suited nozzle is available for every task.

## GOLF COURSES

Grass sport areas must be maintained in a functionally and environmentally appropriate way through low-drift application of plant protection products and biocides – e.g. using ID, IDK, IDTA, IDKT or also XDT nozzles. Gentle liquid fertilizer delivery to supply plants with nutrients is preferably performed using FD and VR nozzles.

## WEED CONTROL

Spray trains are usually equipped with low-drift ID nozzles in the middle section and narrow-jet flood or off-center nozzles at the sides. This makes it possible to reliably keep the tracks free of undesired plant growth and at the same time focus product application in a narrow area.


## VITICULTURE AND TREE/SHRUB PROTECTION

Low-drift nozzles such as IDK nozzles provide optimum protection for users when carrying out pest control measures on trees and shrubs.

Source: RAW Handel und Beratungs GmbH

## DUST SUPPRESSION

ID and FD nozzles permit effective dust binding on traffic areas.

## DE-ICING

De-icing of traffic areas (e.g. airports, roads) with saline solution is an effective and economical process. Here, low-drift ID nozzles are used in the center section in combination with VarioSelect for variable nozzle control in order to maintain a constant application quantity at changing driving speeds. Side widening up to an overall working width of 12 m is realized with solid stream nozzles.


## SPRINKLING

Three nozzle rows equipped with the ID air injector nozzle ensure an optimally watered riding arena in combination with rake, tilling roller and smoothing attachment.

# Nozzles for ground care
## Overview

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | |  |  |  |  |  |  |  |  |  |  |
| **Series** | | **ID** | **IDK/IDKN** | **IDTA** | **IDKT** | **PRE** | **AD** | **QS** | **LU** | **ST/SC** | **XDT** |
| **Spray angle** | | 120/90 | IDK 120/90 IDKN 120 | 120 | 120 | 130 | 120/90 | 80 | 120/90 | 110/80 | 130 |
| **Information on Page** | | 46 | 48 | 62 | 64 | 50 | 52 | 56 | 54 | 58 | 60 |
| **Drift reduction** | | ++ | + | ++ | + | +++ | o | o/– | o/– | – | +++ |
| **Spray geometry** | |  |  |  |  |  |  |  |  |  |  |
| Recommended pressure range [bar] | | 2/3*–**4–8** | 1**–/**1.5–3**–6 | 1–**4–8** | 1***–/**1.5–3**–6 | **1.5–8** | **1.5–3**–6 | **1.5–5** | **1.5–2.5**–5 | **2–3**–5 | 1.5–**3–8** |
| Herbicides | Soil incorporated | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ● | ●● |
| | Pre-emergence | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ● | ●● |
| | Post-emergence (systemic) | ●● | ●● | ●● | ●● | | ●● | ●● | ●● | ● | |
| | Post-emergence (contact) | ● | ● | ●● | ●● | | ● | ●● | ●● | ● | |
| Fungicides | Contact | ● | ● | ●● | ●● | | ● | ●● | ●● | ● | |
| | Systemic | ●● | ●● | ●● | ●● | | ●● | ●● | ●● | ● | |
| Insecticides | Contact | ● | ● | ●● | ●● | | ● | ●● | ●● | ● | |
| | Systemic | ●● | ●● | ●● | ●● | | ●● | ●● | ●● | ● | |
| Liquid fertilizer | | ●●(2–4) | ●●(1**/1.5–2.5) | ○(1–4) | ○(1***/1.5–2.5) | ●●(1.5–4) | ●(1.5–2.5) | ○(1.5–2) | ○(1.5–2) | ○(2) | |
| Growth regulators | | ●● | ●● | ● | ○ | | ●● | ● | ● | ● | |
| Irrigation, watering, dust suppression, de-icing of traffic areas | | ●● | ●● | ●● | ●● | ●● | ●● | ● | ● | ● | ●● |

Observe specifications of product manufacturers.
Hot-water treatment: Nozzles made of stainless steel, e.g. series 652.

| | | NEW | | NEW | | NEW | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **DF** | **FT** | **TR** | **ITR** | **VR** | **FD** | **FB** | **FL** | **FS** | **IS** | **IDKS** | **BN** | **OC (S)** | **E** | **OC (W)** |
| 120 | 140/90 | 80/60 | 80 | 130 | 130 | 100 | 160 | 100 | 80 | 80 | 100 | 90 | 80 | 90 |
| 66 | 70 | 78 | 80 | 82 | 84 | 86 | 90 | 88 | 94 | 96 | 98 | 100 | 104 | 102 |
| — | +(–) | — | ++ | +++ | +++ | +++ | +++ | +++ | ++ | + | – | – | – | – |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **2–3**–5 | **1–3**–6 (**1–2**–3) | **3–8** | 3–**5–10** | **2–8** | **1.5–4** | **1.5–4** | **1–5** | **1–3****/4** | 2–**4–8** | 1*****/**1.5–3**–6 | 1–2–**4–6** | **1.5–2.5**–5 | **1–3**–4 | **2–5** |
| | ●● | ○ | ●● | | | | | | ●● | ●● | ●● | ●● | ●● | ● |
| | ●● | ○ | ○ | | | | | | ●● | ●● | ●● | ●● | ●● | ● |
| ○ | ● | ○ | ○ | | | | | | ●● | ●● | ●● | ●● | ●● | ● |
| ●● | ● | ●● | | | | | | | ● | ● | ●● | ●● | ●● | ● |
| ●● | ● | ●● | ○ | | | | | | ● | ● | ●● | ●● | ●● | ● |
| ● | ● | ● | ● | | | | | | ●● | ●● | ●● | ●● | ●● | ● |
| ●● | ● | ●● | ○ | | | | | | ● | ● | ●● | ●● | ●● | ● |
| ● | ● | ● | ● | | | | | | ●● | ●● | ●● | ●● | ●● | ● |
| | ●(1–2) | | ●●(3–5) | ●● | ●● | ●● | ●●(1–5) | ●●(1–5) | ●●(2–4) | ●●(1*****/1.5–2.5) | ○(1–2) | ○(1.5–2) | ○(1–2) | ○(2) |
| ○ | ● | ● | ○ | | | | | | ●● | ●● | ●● | ●● | ● | ● |
| | | | ● | ●● | ●● | ●● | ● | ● | ●● | ●● | ●● | ● | ● | ●● |

Nozzle sizes: * ID-01/-015 ** IDK 04/-05/-06/-08/-10 IDKN 03/-04 *** IDKT 03/-04/-05/-06/-08/-10 **** FS 10/-15 ***** IDKS 03/-04/-05/-06

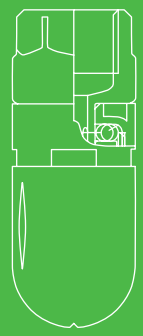
– – = not drift-reducing – = slightly drift-reducing o = drift-reducing + = very drift-reducing + + = highly drift-reducing + + + = extremely drift-reducing

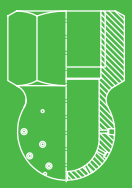
●● = very well-suited ● = well-suited ○ = less well-suited

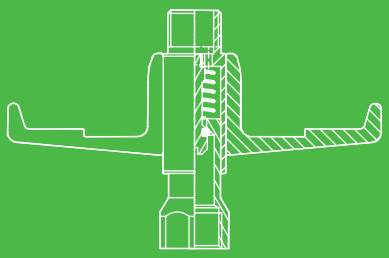

HORSCH

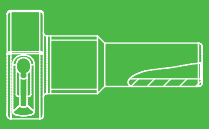
# CLEANING, AGITATING AND RINSING

Lechler offers a unique product range for every tank application in agriculture, animal husbandry and wineries.









# NOZZLES FOR
# CONTAINERS AND TANKS



## WIDE RANGE, SHARP FOCUS

Efficiency has the highest priority when it comes to container and tank cleaning. Because only fast and thorough cleaning removes all residues. The Lechler nozzle range offers innovative nozzle technologies as well as a large selection of sizes and materials for cleaning and flushing containers, tanks and induction hoppers.

In addition, special nozzles facilitate homogenization of tank contents.

The multiple award-winning nozzles of the Cleaner series are available especially for plant protection equipment. All nozzles in our range and the accessories are matched to each other. The ISO color coding makes it easier to always choose the right nozzle and prevents unnecessary application errors.

# Nozzles for cleaning, agitating and rinsing
## Overview

| | | | | |
|---|---|---|---|---|
| |  |  |  |  |
| **Series** | **WallCleaner** | **CanCleaner** | **ContiCleaner** | **Static spray balls 540/541** |
| **Information on Page** | 107 | 114 | 113 | 112 |
| **Spray geometry** |  |  |  |  |
| **Cleaning of containers and tanks** | | | ●● | ●● |
| **Internal cleaning of induction hoppers** | ●● | ● | ○ | ● |
| **Cleaning of canisters** | | ●● | | ● |
| **Continuous internal cleaning** | | | ●● | |
| **Function, max. cleanable tank diameter** | Induction and cleaning of side walls | Cleaning, max. 1.3 m | Cleaning, max. 1.6 m | Rinsing, max. 7.5 m |
| **Features** | Cleaning without dead zones | Increased flow rate to canister bottom | Reliable start-up at low pressure | High operating reliability |

### Nozzle selection

The choice of the right Lechler rotating cleaning nozzle or a suitable static spray ball is determined primarily by the type of dirt to be cleaned and the tank diameter.

Simple rinsing with static spray balls is often sufficient for non-adhering substances. However, the higher the level of soiling and the more stubborn the dirt, the more important the jet force of the nozzle. In such cases, cleaning with rotating cleaning nozzles is recommended. It must be ensured that the diameter of the tank to be cleaned is smaller than the maximum possible tank diameter specified for the nozzle.

|  |  |  |  |
|---|---|---|---|
| **MicroWhirly 500/566** | **MiniWhirly 500.186** | **MiniSpinner 2 5M3** | **Injector agitator nozzles** |
| 113 | 114 | 115 | 106 |
|  |  |  |  |
| ●● | ● | ●● | ●● |
| ● | ● | | |
| ● | ● | | |
| ● | ● | | |
| Cleaning, max. 1.6 m | Cleaning, max. 1.3 m | Cleaning, max. 2.3 m | Mixing, rinsing of liquids |
| Easy start-up thanks to slide bearings | Ball-bearing mounted | Efficient cleaning of large tanks | Efficient mixing, rinsing with rotating arrangement |

●● = very well-suited ● = well-suited
○ = less well-suited

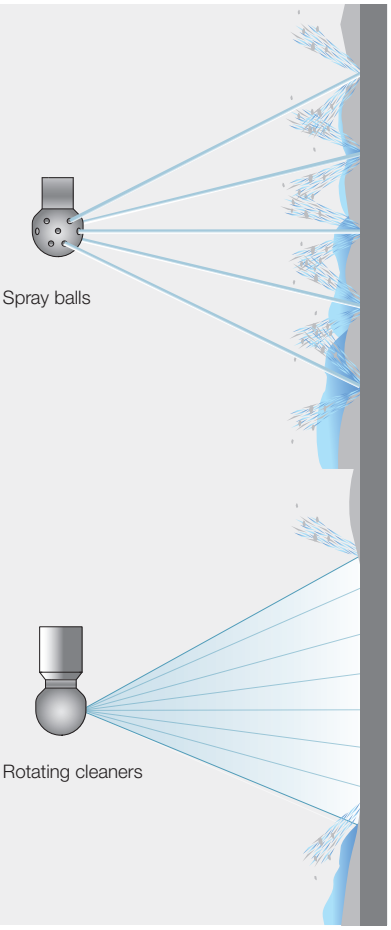
## Nozzles for cleaning and rinsing

### Static

Static spray balls are inexpensive to purchase and offer a trouble-free solution for rinsing tanks. However, they require considerably higher fluid quantities because they do not rotate.

### Free-spinning

The cleaning fluid drives the spray head by means of specially aligned nozzles. The rapidly repeated impacts detach the dirt and rinse it from the tank surface. This results in optimum cleaning efficiency at low pressures in small to medium-sized tanks.



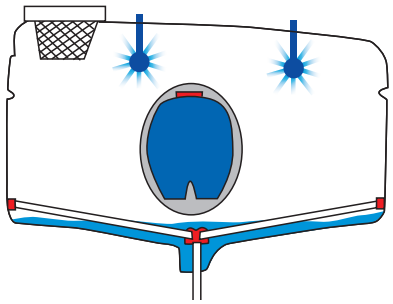
# Container and tank cleaning
## Principles and characteristics

### Nozzle positioning
The cleaning nozzles should be positioned in the upper part of the tank if possible. It must be ensured that sufficient cleaning fluid strikes the tank ceiling.

When cleaning large tanks, it may be necessary to install several nozzles. The nozzles should then be positioned so that their spray jets overlap. The spray jet can then reach almost every surface to be cleaned.

### Avoidance of spray shadows
Surge plates, agitators or lines prevent the locations behind them from being impacted directly by the spray jet of a tank cleaning nozzle. Cleaning by direct impact is not possible in these locations.

For this reason, several nozzles must be used in tanks and containers with built-in equipment. The number of nozzles should be chosen so that the spray shadows of the individual nozzles are eliminated.



### Exterior cleaning of plant protection equipment
Ideally, the exterior of sprayers is also cleaned after the end of product application. Exterior cleaning takes place on the treated area or another vegetated area.

Modern sprayers are equipped with a low- or high-pressure cleaning gun or lance for exterior cleaning of the tank, boom, nozzles, support frame and other components. Efficient and water-saving cleaning is possible with narrow-jet high-pressure cleaning nozzles.

# Application examples
## Plant protection equipment


### Nozzles for continuous internal cleaning

In the case of continuous internal cleaning, the tank cleaning nozzles are selected corresponding to the number of nozzles on the equipment and depending on the nozzle size. To ensure efficient cleaning, the flow rate of the cleaning nozzles must not exceed 90 % of the total nozzle output (all nozzles on the equipment).

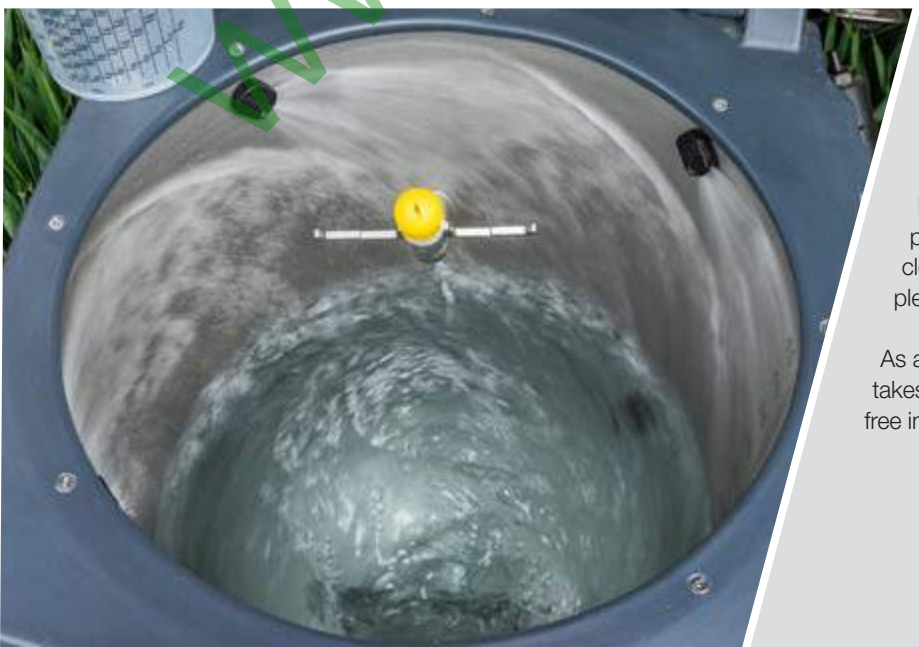
For example, a field spray with 15 m boom and with 30 IDKN 120-03 nozzles and a cleaning pressure of 2 bar produces a total nozzle output of 29.1 l/min. In this example, the cleaning nozzles for continuous internal cleaning may have a delivery of max. 26.2 l/min. This requirement is met by equipping the tank with two ContiCleaner 30 nozzles (each 9.8 l/min at 2 bar). This ensures that no diluted spray mixture residue builds up in the tank and that cleaning can take place continuously.

The required number of inner cleaning nozzles depends on the shape of the spray tank, the surge plates as well as other built-in components in the tank. It is essential to make sure that all areas of the spray tank are reached and that there are no blind spots. The ContiCleaner has been designed especially for this application. Several nozzle sizes with ISO color coding are available. This nozzle already starts up easily at low pressure with reduced flow rate.

### Nozzles for agitation and homogenization

After the plant protection product is flushed into the tank of the plant protection equipment, Lechler injector agitator nozzles ensure fast and homogeneous mixing of the spray mixture. The injector effect of the nozzle reinforces the turbulence of the solid jet. As a result, a large volume in the tank can be circulated in a short time with a low volume flow.

Several injector agitator nozzles with a lower volume flow produce a more intensive agitation effect than a single, large agitator nozzle. In particular, corners and suction sumps are reached more effectively. Dead zones are avoided.



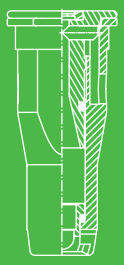
### Nozzles for induction hoppers

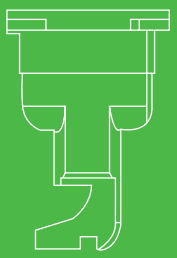
Lechler offers special, user-friendly nozzle technology for induction hoppers: the WallCleaner. This leads to improved user protection and effectively prevents residues. The induction hopper nozzles clean the wall surfaces of the induction hopper completely up to under the edge.

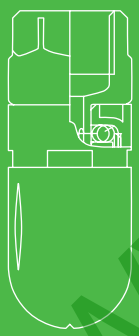
As a result of the rotating liquid flow, premixing already takes place during induction and therefore ensures lump-free induction of powder plant protection products.

NOZZLES

# OUR AGRICULTURAL RANGE IN DETAIL







# Air-injector flat spray nozzles
# ID-120/ID-90

**Crop production** | Ground care

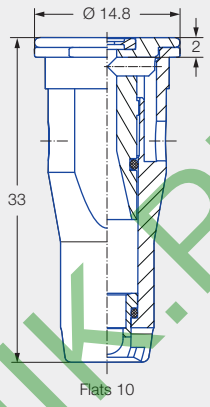
Dimensions in mm.

- Air-aspirating flat spray nozzle
- Extremely low-drift

## Advantages

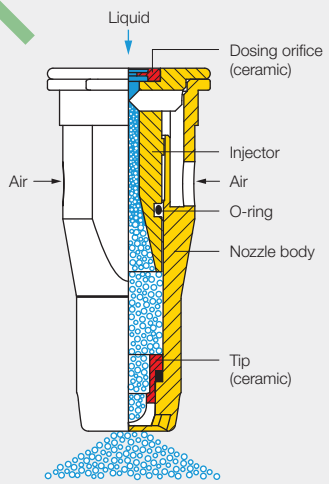
- 90 % drift reduction for: ID-120-025 to -06
- Drift stability over a large pressure range thanks to long injector design
- Timely application even under adverse weather conditions
- Increased workrate due to flexible use over a wide pressure range – adaptation by changing the sprayer speed and l/ha rate without nozzle changes
- Very good deposition structure and crop penetration
- Suitable for PWM

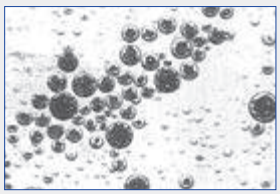
ID ID-C




**Series ID**

Injector can be removed without tools



Bubble formation

**JKI approval as loss-reducing: 90/75/50 %**

G 1965, G 1966, G 1968, G 1969, G 1970, G 1971, G 1972, G 1973, G 1974, G 2088

JKI approval for mixed equipment and border nozzle IS.

**Current list at: www.lechler.com/de-en/service/loss-reducing**

**Application:**

- **Plant protection products and growth regulators**
- **Liquid fertilizer delivery**
- **Edge application Can be combined with border nozzle IS 80**
- **Golf course**

**Technical data:**

- **Nozzle sizes** 01–10
- **Spray angles** 90°, 120°
- **Materials** POM, ceramic
- **Pressure ranges**
  - ID-01 to -015: 3–**4**–**8** bar
  - ID-02 to -10: 2–**4**–**8** bar
  - UAN: 2–4 bar
- **Recommended strainers**
  - 80 M 01
  - 60 M 015-04
  - 25 M 05–10
- **Droplet sizes** Ultra coarse – medium
- **Width across flats** 10 mm

| | ISO 25358 | | [l/min] | [l/ha] 0.5 m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h |
| ID-120-01 90-01 (80 M) | EC | 3.0 | 0.39 | 94 | 78 | 67 | 59 | 47 | 39 | 33 | 29 | 26 |
| | VC | 4.0 | 0.45 | 108 | 90 | 77 | 68 | 54 | 45 | 39 | 34 | 30 |
| | VC | 5.0 | 0.51 | 122 | 102 | 87 | 77 | 61 | 51 | 44 | 38 | 34 |
| | VC | 6.0 | 0.55 | 132 | 110 | 94 | 83 | 66 | 55 | 47 | 41 | 37 |
| | C | 7.0 | 0.60 | 144 | 120 | 103 | 90 | 72 | 60 | 51 | 45 | 40 |
| | C | 8.0 | 0.64 | 154 | 128 | 110 | 96 | 77 | 64 | 55 | 48 | 43 |
| ID-120-015 90-015 (60 M) | VC | 3.0 | 0.59 | 142 | 118 | 101 | 89 | 71 | 59 | 51 | 44 | 39 |
| | VC | 4.0 | 0.68 | 163 | 136 | 117 | 102 | 82 | 68 | 58 | 51 | 45 |
| | VC | 5.0 | 0.76 | 182 | 152 | 130 | 114 | 91 | 76 | 65 | 57 | 51 |
| | C | 6.0 | 0.83 | 199 | 166 | 142 | 125 | 100 | 83 | 71 | 62 | 55 |
| | C | 7.0 | 0.90 | 216 | 180 | 154 | 135 | 108 | 90 | 77 | 68 | 60 |
| | C | 8.0 | 0.96 | 230 | 192 | 165 | 144 | 115 | 96 | 82 | 72 | 64 |
| ID-120-02 90-02 (60 M) | EC | 2.0 | 0.65 | 156 | 130 | 111 | 98 | 78 | 65 | 56 | 49 | 43 |
| | VC | 3.0 | 0.80 | 192 | 160 | 137 | 120 | 96 | 80 | 69 | 60 | 53 |
| | VC | 4.0 | 0.92 | 221 | 184 | 158 | 138 | 110 | 92 | 79 | 69 | 61 |
| | VC | 5.0 | 1.03 | 247 | 206 | 177 | 155 | 124 | 103 | 88 | 77 | 69 |
| | C | 6.0 | 1.13 | 271 | 226 | 194 | 170 | 136 | 113 | 97 | 85 | 75 |
| | C | 7.0 | 1.22 | 293 | 244 | 209 | 183 | 146 | 122 | 105 | 92 | 81 |
| | M | 8.0 | 1.30 | 312 | 260 | 223 | 195 | 156 | 130 | 111 | 98 | 87 |
| ID-120-025 90-025 (60 M) | UC | 2.0 | 0.81 | 194 | 162 | 139 | 122 | 97 | 81 | 69 | 61 | 54 |
| | EC | 3.0 | 0.99 | 238 | 198 | 170 | 149 | 119 | 99 | 85 | 74 | 66 |
| | VC | 4.0 | 1.15 | 276 | 230 | 197 | 173 | 138 | 115 | 99 | 86 | 77 |
| | VC | 5.0 | 1.28 | 307 | 256 | 219 | 192 | 154 | 128 | 110 | 96 | 85 |
| | VC | 6.0 | 1.40 | 336 | 280 | 240 | 210 | 168 | 140 | 120 | 105 | 93 |
| | VC | 7.0 | 1.52 | 365 | 304 | 261 | 228 | 182 | 152 | 130 | 114 | 101 |
| | VC | 8.0 | 1.62 | 389 | 324 | 278 | 243 | 194 | 162 | 139 | 122 | 108 |
| ID-120-03 90-03 (60 M) | UC | 2.0 | 0.97 | 233 | 194 | 166 | 146 | 116 | 97 | 83 | 73 | 65 |
| | EC | 3.0 | 1.19 | 286 | 238 | 204 | 179 | 143 | 119 | 102 | 89 | 79 |
| | VC | 4.0 | 1.37 | 329 | 274 | 235 | 206 | 164 | 137 | 117 | 103 | 91 |
| | VC | 5.0 | 1.53 | 367 | 306 | 262 | 230 | 184 | 153 | 131 | 115 | 102 |
| | VC | 6.0 | 1.68 | 403 | 336 | 288 | 252 | 202 | 168 | 144 | 126 | 112 |
| | VC | 7.0 | 1.81 | 434 | 362 | 310 | 272 | 217 | 181 | 155 | 136 | 121 |
| | VC | 8.0 | 1.94 | 466 | 388 | 333 | 291 | 233 | 194 | 166 | 146 | 129 |
| ID-120-04 90-04 (60 M) | EC | 2.0 | 1.29 | 310 | 258 | 221 | 194 | 155 | 129 | 111 | 97 | 86 |
| | EC | 3.0 | 1.58 | 379 | 316 | 271 | 237 | 190 | 158 | 135 | 119 | 105 |
| | VC | 4.0 | 1.82 | 437 | 364 | 312 | 273 | 218 | 182 | 156 | 137 | 121 |
| | VC | 5.0 | 2.04 | 490 | 408 | 350 | 306 | 245 | 204 | 175 | 153 | 136 |
| | VC | 6.0 | 2.23 | 535 | 446 | 382 | 335 | 268 | 223 | 191 | 167 | 149 |
| | VC | 7.0 | 2.41 | 578 | 482 | 413 | 362 | 289 | 241 | 207 | 181 | 161 |
| | VC | 8.0 | 2.58 | 619 | 516 | 442 | 387 | 310 | 258 | 221 | 194 | 172 |
| ID-120-05 90-05 (25 M) | UC | 2.0 | 1.61 | 386 | 322 | 276 | 242 | 193 | 161 | 138 | 121 | 107 |
| | EC | 3.0 | 1.97 | 473 | 394 | 338 | 296 | 236 | 197 | 169 | 148 | 131 |
| | VC | 4.0 | 2.28 | 547 | 456 | 391 | 342 | 274 | 228 | 195 | 171 | 152 |
| | VC | 5.0 | 2.55 | 612 | 510 | 437 | 383 | 306 | 255 | 219 | 191 | 170 |
| | VC | 6.0 | 2.79 | 670 | 558 | 478 | 419 | 335 | 279 | 239 | 209 | 186 |
| | VC | 7.0 | 3.01 | 722 | 602 | 516 | 452 | 361 | 301 | 258 | 226 | 201 |
| | VC | 8.0 | 3.22 | 773 | 644 | 552 | 483 | 386 | 322 | 276 | 242 | 215 |
| ID-120-06 90-06 (25 M) | EC | 2.0 | 1.93 | 463 | 386 | 331 | 290 | 232 | 193 | 165 | 145 | 129 |
| | EC | 3.0 | 2.36 | 566 | 472 | 405 | 354 | 283 | 236 | 202 | 177 | 157 |
| | VC | 4.0 | 2.73 | 655 | 546 | 468 | 410 | 328 | 273 | 234 | 205 | 182 |
| | VC | 5.0 | 3.05 | 732 | 610 | 523 | 458 | 366 | 305 | 261 | 229 | 203 |
| | VC | 6.0 | 3.34 | 802 | 668 | 573 | 501 | 401 | 334 | 286 | 251 | 223 |
| | VC | 7.0 | 3.61 | 866 | 722 | 619 | 542 | 433 | 361 | 309 | 271 | 241 |
| | VC | 8.0 | 3.86 | 926 | 772 | 662 | 579 | 463 | 386 | 331 | 290 | 257 |
| ID-120-08 (25 M) | EC | 2.0 | 2.58 | 619 | 516 | 442 | 387 | 310 | 258 | 221 | 194 | 172 |
| | EC | 3.0 | 3.16 | 758 | 632 | 542 | 474 | 379 | 316 | 271 | 237 | 211 |
| | VC | 4.0 | 3.65 | 876 | 730 | 626 | 548 | 438 | 365 | 313 | 274 | 243 |
| | VC | 5.0 | 4.08 | 979 | 816 | 699 | 612 | 490 | 408 | 350 | 306 | 272 |
| | VC | 6.0 | 4.47 | 1,073 | 894 | 766 | 671 | 536 | 447 | 383 | 335 | 298 |
| | VC | 7.0 | 4.83 | 1,159 | 966 | 828 | 725 | 580 | 483 | 414 | 362 | 322 |
| | VC | 8.0 | 5.16 | 1,238 | 1,032 | 885 | 774 | 619 | 516 | 442 | 387 | 344 |
| ID-120-10 (25 M) | UC | 2.0 | 3.22 | 773 | 644 | 552 | 483 | 386 | 322 | 276 | 242 | 215 |
| | EC | 3.0 | 3.94 | 946 | 788 | 675 | 591 | 473 | 394 | 338 | 296 | 263 |
| | EC | 4.0 | 4.55 | 1,092 | 910 | 780 | 683 | 546 | 455 | 390 | 341 | 303 |
| | VC | 5.0 | 5.09 | 1,222 | 1,018 | 873 | 764 | 611 | 509 | 436 | 382 | 339 |
| | VC | 6.0 | 5.57 | 1,337 | 1,114 | 955 | 836 | 668 | 557 | 477 | 418 | 371 |
| | VC | 7.0 | 6.02 | 1,445 | 1,204 | 1,032 | 903 | 722 | 602 | 516 | 452 | 401 |
| | VC | 8.0 | 6.43 | 1,543 | 1,286 | 1,102 | 965 | 772 | 643 | 551 | 482 | 429 |

**ISO 25358 classification according to droplet sizes:**

| | |
|---|---|
| VF | Very fine |
| F | Fine |
| M | Medium |
| C | Coarse |
| VC | Very coarse |
| EC | Extremely coarse |
| UC | Ultra coarse |

Subject to modifications.

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to water
- Verify the table values by gauging the flow rates prior to every spraying season
- Pay attention to uniform nozzle adjustment

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

| Ordering example: | Series | + Spray angle | + Nozzle size | + Material | = Order No. |
|---|---|---|---|---|---|
| | ID | + 120° | + 025 | + (POM) | = ID-120-025 |
| | ID | + 120° | + 025 | + C (ceramic) | = ID-120-025 C |

# Compact air-injector flat spray nozzles
# IDK 120/IDK 90 / IDKN 120

**Crop production** | **Ground care**

Dimensions in mm.

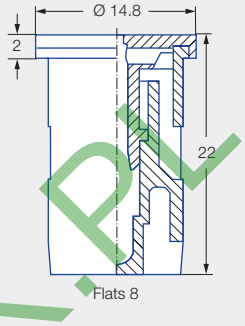
- Air-aspirating flat spray nozzle
- Very low drift

## Advantages

- 95 % drift reduction for: IDK 90-015 C and -02 C with 25 cm nozzle spacing
- 90 % drift reduction for:
  – IDK 120-025 to -06
  – IDKN 120-03 to -04
- Compact design
- Large droplet size range from ultra coarse to medium
- Very low drift and loss-reducing in the pressure range up to 3.0 bar (depending on size)
- Inexpensive alternative to conventional standard nozzles
- Very good deposition structure and crop penetration
- Suitable for PWM

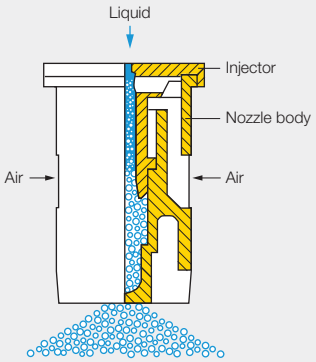

**IDK** | **IDK-C** | **IDKN**

IDKN characteristic: Nozzle body with white stripe




**Series IDK/IDKN**


**Injector can be removed without tools**




**JKI approval as loss-reducing: 90/75/50 %**

G 1661, G 1662, G 1663, G 1683, G 1718, G 1799, G 1800, G 1801, G 1802, G 1936, G 2052, G 2053

JKI approval for mixed equipment and border nozzle IDKS.

**Current list at: www.lechler.com/de-en/service/loss-reducing**

## Application:

- **Plant protection products and growth regulators**
- **Liquid fertilizer delivery**
- **Spray frame**
- **Edge application Can be combined with border nozzle IDKS 80**
- **Golf course**
- **Backpack sprayer**
- **Greenhouse**

## Technical data:

- **Nozzle sizes** 01–10
- **Spray angles** 90°, 120°
- **Materials** POM, ceramic
- **Pressure ranges**
  - IDK 01 to -10: 1–**1.5**–**3**–6 bar
  - IDKN 03 to -04: 1–**1.5**–**3**–6 bar
  - UAN: 1.0–2.5 bar
- **Recommended strainers**
  - 80 M 01
  - 60 M 015–04
  - 25 M 05–10
- **Droplet sizes** Ultra coarse – medium
- **Width across flats** 8 mm

| | ISO 25358 | | | [l/min] | [l/ha] 0.5m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | IDKN | IDK | | | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h |
| IDK 120-01 90-01 (80 M) | | EC | 1.0 | 0.23 | 55 | 46 | 39 | 35 | 28 | 23 | 20 | 17 | 15 |
| | | VC | 1.5 | 0.28 | 67 | 56 | 48 | 42 | 34 | 28 | 24 | 21 | 19 |
| | | VC | 2.0 | 0.32 | 77 | 64 | 55 | 48 | 38 | 32 | 27 | 24 | 21 |
| | | VC | 3.0 | 0.39 | 94 | 78 | 67 | 59 | 47 | 39 | 33 | 29 | 26 |
| | | C | 4.0 | 0.45 | 108 | 90 | 77 | 68 | 54 | 45 | 39 | 34 | 30 |
| | | M | 6.0 | 0.55 | 132 | 110 | 94 | 83 | 66 | 55 | 47 | 41 | 37 |
| IDK 120-015 90-015 (60 M) | | EC | 1.0 | 0.34 | 82 | 68 | 58 | 51 | 41 | 34 | 29 | 26 | 23 |
| | | VC | 1.5 | 0.42 | 101 | 84 | 72 | 63 | 50 | 42 | 36 | 32 | 28 |
| | | VC | 2.0 | 0.48 | 115 | 96 | 82 | 72 | 58 | 48 | 41 | 36 | 32 |
| | | C | 3.0 | 0.59 | 142 | 118 | 101 | 89 | 71 | 59 | 51 | 44 | 39 |
| | | C | 4.0 | 0.68 | 163 | 136 | 117 | 102 | 82 | 68 | 58 | 51 | 45 |
| | | M | 6.0 | 0.83 | 199 | 166 | 142 | 125 | 100 | 83 | 71 | 62 | 55 |
| IDK 120-02 90-02 (60 M) | | EC | 1.0 | 0.46 | 110 | 92 | 79 | 69 | 55 | 46 | 39 | 35 | 31 |
| | | VC | 1.5 | 0.56 | 134 | 112 | 96 | 84 | 67 | 56 | 48 | 42 | 37 |
| | | VC | 2.0 | 0.65 | 156 | 130 | 111 | 98 | 78 | 65 | 56 | 49 | 43 |
| | | VC | 3.0 | 0.80 | 192 | 160 | 137 | 120 | 96 | 80 | 69 | 60 | 53 |
| | | C | 4.0 | 0.92 | 221 | 184 | 158 | 138 | 110 | 92 | 79 | 69 | 61 |
| | | M | 6.0 | 1.13 | 271 | 226 | 194 | 170 | 136 | 113 | 97 | 85 | 75 |
| IDK 120-025 90-025 (60 M) | | EC | 1.0 | 0.57 | 137 | 114 | 98 | 86 | 68 | 57 | 49 | 43 | 38 |
| | | VC | 1.5 | 0.70 | 168 | 140 | 120 | 105 | 84 | 70 | 60 | 53 | 47 |
| | | VC | 2.0 | 0.81 | 194 | 162 | 139 | 122 | 97 | 81 | 69 | 61 | 54 |
| | | C | 3.0 | 0.99 | 238 | 198 | 170 | 149 | 119 | 99 | 85 | 74 | 66 |
| | | C | 4.0 | 1.15 | 276 | 230 | 197 | 173 | 138 | 115 | 99 | 86 | 77 |
| | | M | 6.0 | 1.40 | 336 | 280 | 240 | 210 | 168 | 140 | 120 | 105 | 93 |
| IDK 120-03 90-03 IDKN 120-03 (60 M) | UC | EC | 1.0 | 0.69 | 166 | 138 | 118 | 104 | 83 | 69 | 59 | 52 | 46 |
| | EC | VC | 1.5 | 0.84 | 202 | 168 | 144 | 126 | 101 | 84 | 72 | 63 | 56 |
| | EC | VC | 2.0 | 0.97 | 233 | 194 | 166 | 146 | 116 | 97 | 83 | 73 | 65 |
| | VC | VC | 3.0 | 1.19 | 286 | 238 | 204 | 179 | 143 | 119 | 102 | 89 | 79 |
| | VC | C | 4.0 | 1.37 | 329 | 274 | 235 | 206 | 164 | 137 | 117 | 103 | 91 |
| | C | M | 6.0 | 1.68 | 403 | 336 | 288 | 252 | 202 | 168 | 144 | 126 | 112 |
| IDK 120-04 90-04 IDKN 120-04 (60 M) | UC | UC | 1.0 | 0.91 | 218 | 182 | 156 | 137 | 109 | 91 | 78 | 68 | 61 |
| | EC | EC | 1.5 | 1.12 | 269 | 224 | 192 | 168 | 134 | 112 | 96 | 84 | 75 |
| | EC | EC | 2.0 | 1.29 | 310 | 258 | 221 | 194 | 155 | 129 | 111 | 97 | 86 |
| | VC | VC | 3.0 | 1.58 | 379 | 316 | 271 | 237 | 190 | 158 | 135 | 119 | 105 |
| | VC | C | 4.0 | 1.82 | 437 | 364 | 312 | 273 | 218 | 182 | 156 | 137 | 121 |
| | C | C | 6.0 | 2.23 | 535 | 446 | 382 | 335 | 268 | 223 | 191 | 167 | 149 |
| IDK 120-05 90-05 (25 M) | | EC | 1.0 | 1.14 | 274 | 228 | 195 | 171 | 137 | 114 | 98 | 86 | 76 |
| | | EC | 1.5 | 1.39 | 334 | 278 | 238 | 209 | 167 | 139 | 119 | 104 | 93 |
| | | VC | 2.0 | 1.61 | 386 | 322 | 276 | 242 | 193 | 161 | 138 | 121 | 107 |
| | | VC | 3.0 | 1.97 | 473 | 394 | 338 | 296 | 236 | 197 | 169 | 148 | 131 |
| | | VC | 4.0 | 2.28 | 547 | 456 | 391 | 342 | 274 | 228 | 195 | 171 | 152 |
| | | C | 5.0 | 2.55 | 612 | 510 | 437 | 383 | 306 | 255 | 219 | 191 | 170 |
| | | C | 6.0 | 2.79 | 670 | 558 | 478 | 419 | 335 | 279 | 239 | 209 | 186 |
| IDK 120-06 90-06 (25 M) | | EC | 1.0 | 1.36 | 326 | 272 | 233 | 204 | 163 | 136 | 117 | 102 | 91 |
| | | VC | 1.5 | 1.67 | 401 | 334 | 286 | 251 | 200 | 167 | 143 | 125 | 111 |
| | | VC | 2.0 | 1.93 | 463 | 386 | 331 | 290 | 232 | 193 | 165 | 145 | 129 |
| | | VC | 3.0 | 2.36 | 566 | 472 | 405 | 354 | 283 | 236 | 202 | 177 | 157 |
| | | C | 4.0 | 2.73 | 655 | 546 | 468 | 410 | 328 | 273 | 234 | 205 | 182 |
| | | C | 6.0 | 3.34 | 802 | 668 | 573 | 501 | 401 | 334 | 286 | 251 | 223 |
| IDK 120-08 (25 M) | | EC | 1.0 | 1.82 | 437 | 364 | 312 | 273 | 218 | 182 | 156 | 137 | 121 |
| | | EC | 1.5 | 2.23 | 535 | 446 | 382 | 335 | 268 | 223 | 191 | 167 | 149 |
| | | VC | 2.0 | 2.58 | 619 | 516 | 442 | 387 | 310 | 258 | 221 | 194 | 172 |
| | | VC | 3.0 | 3.16 | 758 | 632 | 542 | 474 | 379 | 316 | 271 | 237 | 211 |
| | | VC | 4.0 | 3.65 | 876 | 730 | 626 | 548 | 438 | 365 | 313 | 274 | 243 |
| | | C | 6.0 | 3.34 | 802 | 668 | 573 | 501 | 401 | 334 | 286 | 251 | 223 |
| IDK 120-10 (25 M) | | UC | 1.0 | 2.27 | 545 | 454 | 389 | 341 | 272 | 227 | 195 | 170 | 151 |
| | | EC | 1.5 | 2.79 | 670 | 558 | 478 | 419 | 335 | 279 | 239 | 209 | 186 |
| | | EC | 2.0 | 3.22 | 773 | 644 | 552 | 483 | 386 | 322 | 276 | 242 | 215 |
| | | VC | 3.0 | 3.94 | 946 | 788 | 675 | 591 | 473 | 394 | 338 | 296 | 263 |
| | | VC | 4.0 | 4.55 | 1,092 | 910 | 780 | 683 | 546 | 455 | 390 | 341 | 303 |
| | | C | 6.0 | 5.57 | 1,337 | 1,114 | 955 | 836 | 668 | 557 | 477 | 418 | 371 |

**ISO 25358 classification according to droplet sizes:**

| | |
|---|---|
| VF | Very fine |
| F | Fine |
| M | Medium |
| C | Coarse |
| VC | Very coarse |
| EC | Extremely coarse |
| UC | Ultra coarse |

Subject to modifications.

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to water
- Verify the table values by gauging the flow rates prior to every spraying season
- Pay attention to uniform nozzle adjustment

**Recommendation**
Optimum protection of IDK/IDKN nozzles thanks to long design of MultiCap (see Page 124).

Available fully assembled with IDK and IDKN nozzles.

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here:
**www.lechler.com/de-en/service/apps**

| Ordering example: | Series | + | Spray angle | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|---|---|
| | IDK | + | 120° | + | 01 | + | (POM) | = | IDK 120-01 |
| | IDK | + | 120° | + | 01 | + | C (Ceramic) | = | IDK 120-01 C |
| | MultiCap IDK | + | 120° | + | 01 | + | (POM) | = | MultiCap IDK 120-01 |

# Pre-emergence flat spray nozzle
# PRE

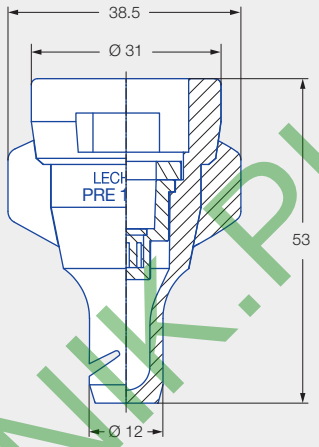
**Crop production** | **Ground care**

Dimensions in mm.

- Extremely low-drift flat spray nozzle
- For timely application of pre-emergence herbicides

## Advantages

- 95 % drift reduction from 1.5 to 5 bar
- Flexible implementation of distance to water requirements
- Wide pressure range from 1.5–8 bar
- High workrate through simple adaptation of l/ha rate and driving speed
- Timely application even under adverse weather conditions
- Nozzle in cap with MULTIJET bayonet system (incl. gasket)
- Suitable for PWM



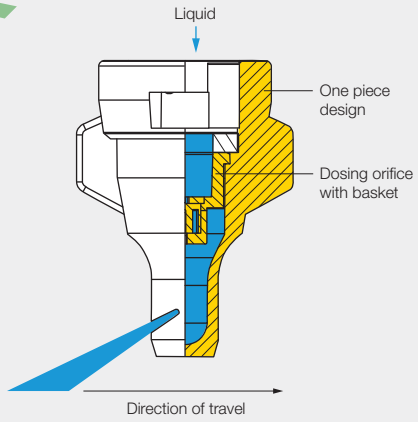

**Series PRE**

**JKI approval as loss-reducing: 95/90 %**

G 1981

**Current list at: www.lechler.com/de-en/service/loss-reducing**

**Pre-chamber can be removed without tools**




**Application:**

- **Herbicide pre-emergence**
- **Liquid fertilizer delivery**
- **Golf course**

**Technical data:**

- **Nozzle size** 05
- **Spray angle** 130°
- **Material** POM
- **Pressure ranges**
  - **1.5–8** bar
  - UAN: **1.5–4** bar
- **Recommended strainer** 25 M
- **Droplet size** Ultra coarse

| | ISO 25358 | | [l/min] | [l/ha] 0.5m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h |
| PRE 130-05 (25 M) | UC | 1.5 | 1.55 | 372 | 310 | 266 | 233 | 186 | 155 | 133 | 116 | 103 |
| | UC | 2.0 | 1.73 | 415 | 346 | 297 | 260 | 208 | 173 | 148 | 130 | 115 |
| | UC | 3.0 | 2.00 | 480 | 400 | 343 | 300 | 240 | 200 | 171 | 150 | 133 |
| | UC | 4.0 | 2.24 | 538 | 448 | 384 | 336 | 269 | 224 | 192 | 168 | 149 |
| | UC | 5.0 | 2.45 | 588 | 490 | 420 | 368 | 294 | 245 | 210 | 184 | 163 |
| | UC | 6.0 | 2.64 | 634 | 528 | 453 | 396 | 317 | 264 | 226 | 198 | 176 |
| | UC | 7.0 | 2.82 | 677 | 564 | 483 | 423 | 338 | 282 | 242 | 212 | 188 |
| | UC | 8.0 | 2.99 | 718 | 598 | 513 | 449 | 359 | 299 | 256 | 224 | 199 |

**ISO 25358 classification according to droplet sizes:**

| | |
|---|---|
| VF | Very fine |
| F | Fine |
| M | Medium |
| C | Coarse |
| VC | Very coarse |
| EC | Extremely coarse |
| UC | Ultra coarse |

Subject to modifications.

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to water
- Verify the table values by gauging the flow rates prior to every spraying season
- Pay attention to uniform nozzle adjustment

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

| Ordering example: | Series PRE | + Nozzle size 05 | + Material (POM) | = Order No. PRE 05 |
|---|---|---|---|---|

# Anti-drift flat spray nozzles
## AD 120/AD 90

**Crop production** | Ground care

Dimensions in mm.

- Low-drift flat spray nozzle

### Advantages

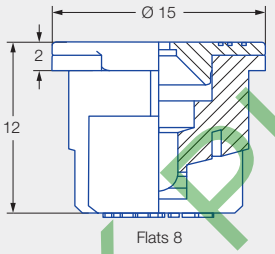
- Application with medium to coarse droplets even with low l/ha rates
- Optimized atomization and reduced fine droplet share thanks to integrated pre-chamber
- Pre-atomizer can be removed without tools

NEW

- Pre-atomizer has flush contact with twist lock
- Pre-atomizer can be removed for cleaning
- Compact design
- Suitable for PWM

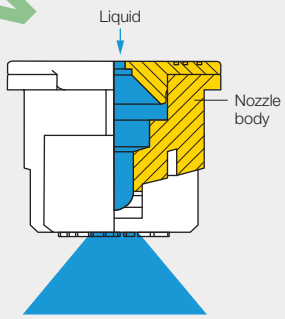
AD

AD-C




**Series AD**

Removable pre-atomizer




**Application:**

- **Plant protection products and growth regulators**
- **Backpack sprayer**
- **Greenhouse**

**Technical data:**

- **Nozzle sizes** 015–04
- **Spray angles** 90°, 120°
- **Materials** POM, ceramic
- **Pressure ranges** **1.5–3**–6 bar
- **Recommended strainers**
  - 80 M 015
  - 60 M 02–04
- **Droplet sizes** Coarse – fine
- **Width across flats** 8 mm

| | | ISO 25358 | | [l/min] | [l/ha] 0.5m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h |
| | AD 120-015 90-015 (80 M) | M | 1.5 | 0.42 | 101 | 84 | 72 | 63 | 50 | 42 | 36 | 32 | 28 |
| | | M | 2.0 | 0.48 | 115 | 96 | 82 | 72 | 58 | 48 | 41 | 36 | 32 |
| | | M | 2.5 | 0.54 | 130 | 108 | 93 | 81 | 65 | 54 | 45 | 41 | 36 |
| | | M | 3.0 | 0.59 | 142 | 118 | 101 | 89 | 71 | 59 | 51 | 44 | 39 |
| | | F | 3.5 | 0.63 | 151 | 126 | 108 | 95 | 76 | 63 | 54 | 47 | 42 |
| | | F | 4.0 | 0.68 | 163 | 136 | 117 | 102 | 82 | 68 | 58 | 51 | 45 |
| | | F | 4.5 | 0.72 | 173 | 144 | 123 | 108 | 86 | 72 | 62 | 54 | 48 |
| | | F | 5.0 | 0.76 | 182 | 152 | 130 | 114 | 91 | 76 | 65 | 57 | 51 |
| | | F | 6.0 | 0.83 | 199 | 166 | 142 | 125 | 100 | 83 | 72 | 62 | 55 |
| | AD 120-02 90-02 (60 M) | M | 1.5 | 0.56 | 134 | 112 | 96 | 84 | 67 | 56 | 47 | 42 | 37 |
| | | M | 2.0 | 0.65 | 156 | 130 | 111 | 98 | 78 | 65 | 54 | 49 | 43 |
| | | M | 2.5 | 0.73 | 175 | 146 | 125 | 110 | 88 | 73 | 61 | 55 | 49 |
| | | M | 3.0 | 0.80 | 192 | 160 | 137 | 120 | 96 | 80 | 67 | 60 | 53 |
| | | F | 3.5 | 0.86 | 206 | 172 | 147 | 129 | 103 | 86 | 73 | 65 | 57 |
| | | F | 4.0 | 0.92 | 221 | 184 | 158 | 138 | 110 | 92 | 77 | 69 | 61 |
| | | F | 4.5 | 0.98 | 235 | 196 | 168 | 147 | 118 | 98 | 82 | 74 | 65 |
| | | F | 5.0 | 1.03 | 247 | 206 | 177 | 155 | 124 | 103 | 87 | 77 | 69 |
| | | F | 6.0 | 1.13 | 271 | 226 | 194 | 170 | 136 | 113 | 95 | 85 | 75 |
| | AD 120-03 90-03 (60 M) | M | 1.5 | 0.84 | 202 | 168 | 144 | 126 | 101 | 84 | 70 | 63 | 56 |
| | | M | 2.0 | 0.97 | 233 | 194 | 166 | 146 | 116 | 97 | 81 | 73 | 65 |
| | | M | 2.5 | 1.08 | 259 | 216 | 185 | 162 | 130 | 108 | 91 | 81 | 72 |
| | | M | 3.0 | 1.19 | 286 | 238 | 204 | 179 | 143 | 119 | 100 | 89 | 79 |
| | | M | 3.5 | 1.28 | 307 | 256 | 219 | 192 | 154 | 128 | 108 | 96 | 85 |
| | | F | 4.0 | 1.37 | 329 | 274 | 235 | 206 | 164 | 137 | 116 | 103 | 91 |
| | | F | 4.5 | 1.46 | 350 | 292 | 250 | 219 | 175 | 146 | 123 | 110 | 97 |
| | | F | 5.0 | 1.53 | 367 | 306 | 262 | 230 | 184 | 153 | 130 | 115 | 102 |
| | | F | 6.0 | 1.68 | 403 | 336 | 288 | 252 | 202 | 168 | 141 | 126 | 112 |
| | AD 120-04 90-04 (60 M) | C | 1.5 | 1.12 | 269 | 224 | 192 | 168 | 134 | 112 | 93 | 84 | 75 |
| | | C | 2.0 | 1.29 | 310 | 258 | 221 | 194 | 155 | 129 | 108 | 97 | 86 |
| | | M | 2.5 | 1.44 | 346 | 288 | 247 | 216 | 173 | 144 | 122 | 108 | 96 |
| | | M | 3.0 | 1.58 | 379 | 316 | 271 | 237 | 190 | 158 | 133 | 119 | 105 |
| | | M | 3.5 | 1.71 | 410 | 342 | 293 | 257 | 205 | 171 | 144 | 128 | 114 |
| | | M | 4.0 | 1.82 | 437 | 364 | 312 | 273 | 218 | 182 | 154 | 137 | 121 |
| | | M | 4.5 | 1.94 | 466 | 388 | 333 | 291 | 233 | 194 | 164 | 146 | 129 |
| | | M | 5.0 | 2.04 | 490 | 408 | 350 | 306 | 245 | 204 | 173 | 153 | 136 |
| | | M | 6.0 | 2.23 | 535 | 446 | 382 | 335 | 268 | 223 | 189 | 167 | 149 |

**ISO 25358 classification according to droplet sizes:**

| | |
|---|---|
| VF | Very fine |
| F | Fine |
| M | Medium |
| C | Coarse |
| VC | Very coarse |
| EC | Extremely coarse |
| UC | Ultra coarse |

Subject to modifications.

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to water
- Verify the table values by gauging the flow rates prior to every spraying season
- Pay attention to uniform nozzle adjustment

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

| Ordering example: | Series | + | Spray angle | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|---|---|
| | AD | + | 120° | + | 02 | + | (POM) | = | AD 120-02 |
| | AD | + | 120° | + | 02 | + | C (Ceramic) | = | AD 120-02 C |

# Multirange flat spray nozzles
## LU 120/LU 90

**Crop production** | Ground care

Dimensions in mm.

- Universal flat spray nozzle with fine droplet spectrum

### Advantages
- Extended pressure range
- Low drift in the pressure range up to 2.5 bar
- Fine-droplet application
- High manufacturing quality
- Suitable for PWM

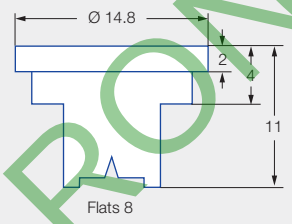
LU

LU-C

LU-S

G 1240, G 1242, G 1524, G 1596

**Series LU**




### Application:

**Plant protection products and growth regulators**

**Edge application**
**Can be combined with border nozzle OC**

**Backpack sprayer**

**Greenhouse**

### Technical data:

**Nozzle sizes**
01–08

**Spray angles**
90°, 120°

**Materials**
POM, ceramic, stainless steel

**Pressure ranges**
**1.5–2.5**–5 bar

**Recommended strainers**
- 80 M 01–015
- 60 M 02–04
- 25 M 05–08

**Droplet sizes**
Coarse – very fine

**Width across flats**
8 mm

| | | ISO 25358 | | [l/min] | [l/ha] 0.5 m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h |
| | LU 120-01 90-01 (80 M) | F | 1.5 | 0.28 | 67 | 56 | 48 | 42 | 34 | 28 | 24 | 21 | 19 |
| | | F | 2.0 | 0.32 | 77 | 64 | 55 | 48 | 38 | 32 | 27 | 24 | 21 |
| | | F | 3.0 | 0.39 | 94 | 78 | 67 | 59 | 47 | 39 | 33 | 29 | 26 |
| | | F | 4.0 | 0.45 | 108 | 90 | 77 | 68 | 54 | 45 | 39 | 34 | 30 |
| | | VF | 5.0 | 0.51 | 122 | 102 | 87 | 77 | 61 | 51 | 44 | 38 | 34 |
| | LU 120-015 90-015 (80 M) | F | 1.5 | 0.42 | 101 | 84 | 72 | 63 | 50 | 42 | 36 | 32 | 28 |
| | | F | 2.0 | 0.48 | 115 | 96 | 82 | 72 | 58 | 48 | 41 | 36 | 32 |
| | | F | 3.0 | 0.59 | 142 | 118 | 101 | 89 | 71 | 59 | 51 | 44 | 39 |
| | | F | 4.0 | 0.68 | 163 | 136 | 117 | 102 | 82 | 68 | 58 | 51 | 45 |
| | | VF | 5.0 | 0.76 | 182 | 152 | 130 | 114 | 91 | 76 | 65 | 57 | 51 |
| | LU 120-02 90-02 (60 M) | M | 1.5 | 0.56 | 134 | 112 | 96 | 84 | 67 | 56 | 48 | 42 | 37 |
| | | F | 2.0 | 0.65 | 156 | 130 | 111 | 98 | 78 | 65 | 56 | 49 | 43 |
| | | F | 3.0 | 0.80 | 192 | 160 | 137 | 120 | 96 | 80 | 69 | 60 | 53 |
| | | F | 4.0 | 0.92 | 221 | 184 | 158 | 138 | 110 | 92 | 79 | 69 | 61 |
| | | F | 5.0 | 1.03 | 247 | 206 | 177 | 155 | 124 | 103 | 88 | 77 | 69 |
| | LU 120-025 (60 M) | M | 1.5 | 0.70 | 168 | 140 | 120 | 105 | 84 | 70 | 60 | 53 | 47 |
| | | F | 2.0 | 0.81 | 194 | 162 | 139 | 122 | 97 | 81 | 69 | 61 | 54 |
| | | F | 3.0 | 0.99 | 238 | 198 | 170 | 149 | 119 | 99 | 85 | 74 | 66 |
| | | F | 4.0 | 1.15 | 276 | 230 | 197 | 173 | 138 | 115 | 99 | 86 | 77 |
| | | F | 5.0 | 1.28 | 307 | 256 | 219 | 192 | 154 | 128 | 110 | 96 | 85 |
| | LU 120-03 90-03 (60 M) | M | 1.5 | 0.84 | 202 | 168 | 144 | 126 | 101 | 84 | 72 | 63 | 56 |
| | | F | 2.0 | 0.97 | 233 | 194 | 166 | 146 | 116 | 97 | 83 | 73 | 65 |
| | | F | 3.0 | 1.19 | 286 | 238 | 204 | 179 | 143 | 119 | 102 | 89 | 79 |
| | | F | 4.0 | 1.37 | 329 | 274 | 235 | 206 | 164 | 137 | 117 | 103 | 91 |
| | | F | 5.0 | 1.53 | 367 | 306 | 262 | 230 | 184 | 153 | 131 | 115 | 102 |
| | LU 120-04 90-04 (60 M) | M | 1.5 | 1.12 | 269 | 224 | 192 | 168 | 134 | 112 | 96 | 84 | 75 |
| | | M | 2.0 | 1.29 | 310 | 258 | 221 | 194 | 155 | 129 | 111 | 97 | 86 |
| | | F | 3.0 | 1.58 | 379 | 316 | 271 | 237 | 190 | 158 | 135 | 119 | 105 |
| | | F | 4.0 | 1.82 | 437 | 364 | 312 | 273 | 218 | 182 | 156 | 137 | 121 |
| | | F | 5.0 | 2.04 | 490 | 408 | 350 | 306 | 245 | 204 | 175 | 153 | 136 |
| | LU 120-05 90-05 (25 M) | M | 1.5 | 1.39 | 334 | 278 | 238 | 209 | 167 | 139 | 119 | 104 | 93 |
| | | M | 2.0 | 1.61 | 386 | 322 | 276 | 242 | 193 | 161 | 138 | 121 | 107 |
| | | F | 3.0 | 1.97 | 473 | 394 | 338 | 296 | 236 | 197 | 169 | 148 | 131 |
| | | F | 4.0 | 2.28 | 547 | 456 | 391 | 342 | 274 | 228 | 195 | 171 | 152 |
| | | F | 5.0 | 2.55 | 612 | 510 | 437 | 383 | 306 | 255 | 219 | 191 | 170 |
| | LU 120-06 90-06 (25 M) | M | 1.5 | 1.67 | 401 | 334 | 286 | 251 | 200 | 167 | 143 | 125 | 111 |
| | | M | 2.0 | 1.93 | 463 | 386 | 331 | 290 | 232 | 193 | 165 | 145 | 129 |
| | | F | 3.0 | 2.36 | 566 | 472 | 405 | 354 | 283 | 236 | 202 | 177 | 157 |
| | | F | 4.0 | 2.73 | 655 | 546 | 468 | 410 | 328 | 273 | 234 | 205 | 182 |
| | | F | 5.0 | 3.05 | 732 | 610 | 523 | 458 | 366 | 305 | 261 | 229 | 203 |
| | LU 120-08 90-08 (25 M) | C | 1.5 | 2.23 | 535 | 446 | 382 | 335 | 268 | 223 | 191 | 167 | 149 |
| | | M | 2.0 | 2.58 | 619 | 516 | 442 | 387 | 310 | 258 | 221 | 194 | 172 |
| | | M | 3.0 | 3.16 | 758 | 632 | 542 | 474 | 379 | 316 | 271 | 237 | 211 |
| | | M | 4.0 | 3.65 | 876 | 730 | 626 | 548 | 438 | 365 | 313 | 274 | 243 |
| | | M | 5.0 | 4.08 | 979 | 816 | 699 | 612 | 490 | 408 | 350 | 306 | 272 |

**ISO 25358 classification according to droplet sizes:**

| | |
|---|---|
| VF | Very fine |
| F | Fine |
| M | Medium |
| C | Coarse |
| VC | Very coarse |
| EC | Extremely coarse |
| UC | Ultra coarse |

Subject to modifications.

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to water
- Verify the table values by gauging the flow rates prior to every spraying season
- Pay attention to uniform nozzle adjustment

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

| Ordering example: | Series | + | Spray angle | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|---|---|
| | LU | + | 120° | + | 02 | + | (POM) | = | LU 120-02 |
| | LU | + | 120° | + | 015 | + | C (Ceramic) | = | LU 120-015 C |
| | LU | + | 120° | + | 03 | + | S (stainless steel) | = | LU 120-03 S |

# Quality flat spray nozzles
# QS 80

**Crop production** | **Ground care**

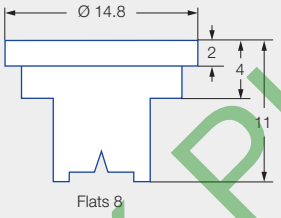
Dimensions in mm.

- Universal flat spray nozzle made of ceramic material
- For lower l/ha rates and higher workrates

## Advantages

- 80° flat spray reduces drift in comparison with 110°/120° flat spray
- Higher droplet density due to optimized fine droplet spectrum
- Lower flow rate tolerance of +1/–3 % due to high manufacturing quality
- Optimum cross distribution for boom heights of 0.6 to 0.9 m
- High wear resistance thanks to ceramic tip
- Suitable for PWM

**Series QS 80**




### Application:

**Plant protection products and growth regulators**

**Edge application**
**Can be combined with border nozzle OC**

### Technical data:

**Nozzle sizes**
015–025

**Spray angle**
80°

**Material**
Ceramic

**Pressure ranges**
**1.5–5** bar

**Recommended strainers**
- 80 M 015
- 60 M 02–025

**Droplet sizes**
Medium – fine

**Width across flats**
8 mm

**Spray heights**
60–90 cm

| | ISO 25358 | bar | [l/min] | [l/ha] 0.5m | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 9.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h | 20.0 km/h |
| QS 80-015 (80 M) | F | 1.5 | 0.42 | 101 | 84 | 72 | 63 | 56 | 50 | 42 | 36 | 32 | 28 | 25 |
| | F | 2.0 | 0.48 | 115 | 96 | 82 | 72 | 64 | 58 | 48 | 41 | 36 | 32 | 29 |
| | F | 2.5 | 0.54 | 130 | 108 | 93 | 81 | 72 | 65 | 54 | 46 | 41 | 36 | 32 |
| | F | 3.0 | 0.59 | 142 | 118 | 101 | 89 | 79 | 71 | 59 | 51 | 44 | 39 | 35 |
| | F | 3.5 | 0.63 | 151 | 126 | 108 | 95 | 84 | 76 | 63 | 54 | 47 | 42 | 38 |
| | F | 4.0 | 0.68 | 163 | 136 | 117 | 102 | 91 | 82 | 68 | 58 | 51 | 45 | 41 |
| | F | 5.0 | 0.76 | 182 | 152 | 130 | 114 | 101 | 91 | 76 | 65 | 57 | 51 | 46 |
| QS 80-02 (60 M) | M | 1.5 | 0.56 | 134 | 112 | 96 | 84 | 75 | 67 | 56 | 48 | 42 | 37 | 34 |
| | F | 2.0 | 0.65 | 156 | 130 | 111 | 98 | 87 | 78 | 65 | 56 | 49 | 43 | 39 |
| | F | 2.5 | 0.73 | 175 | 146 | 125 | 110 | 97 | 88 | 73 | 63 | 55 | 49 | 44 |
| | F | 3.0 | 0.80 | 192 | 160 | 137 | 120 | 107 | 96 | 80 | 69 | 60 | 53 | 48 |
| | F | 3.5 | 0.86 | 206 | 172 | 147 | 129 | 115 | 103 | 86 | 74 | 65 | 57 | 52 |
| | F | 4.0 | 0.92 | 221 | 184 | 158 | 138 | 123 | 110 | 92 | 79 | 69 | 61 | 55 |
| | F | 5.0 | 1.03 | 247 | 206 | 177 | 155 | 137 | 124 | 103 | 97 | 77 | 69 | 62 |
| QS 80-025 (60 M) | M | 1.5 | 0.70 | 168 | 140 | 120 | 105 | 93 | 84 | 70 | 60 | 53 | 47 | 42 |
| | F | 2.0 | 0.81 | 194 | 162 | 139 | 122 | 108 | 97 | 81 | 69 | 61 | 54 | 49 |
| | F | 2.5 | 0.91 | 218 | 182 | 156 | 137 | 121 | 109 | 91 | 78 | 68 | 61 | 55 |
| | F | 3.0 | 0.99 | 238 | 198 | 170 | 149 | 132 | 119 | 99 | 85 | 74 | 66 | 59 |
| | F | 3.5 | 1.07 | 257 | 214 | 183 | 161 | 143 | 129 | 107 | 92 | 80 | 71 | 64 |
| | F | 4.0 | 1.15 | 276 | 230 | 197 | 173 | 153 | 138 | 115 | 99 | 86 | 77 | 69 |
| | F | 5.0 | 1.28 | 307 | 256 | 219 | 192 | 171 | 154 | 128 | 110 | 96 | 85 | 77 |

**ISO 25358 classification according to droplet sizes:**

| | |
|---|---|
| VF | Very fine |
| F | Fine |
| M | Medium |
| C | Coarse |
| VC | Very coarse |
| EC | Extremely coarse |
| UC | Ultra coarse |

Subject to modifications.

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to water
- Verify the table values by gauging the flow rates prior to every spraying season
- Pay attention to uniform nozzle adjustment

| Ordering example: | Series | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|
| | QS 80 | + | 015 | + | C (Ceramic) | = | QS 80-015 C |

# Standard flat spray nozzles
# ST 110/ST 80 / SC 110/SC 80

**Crop production** | Ground care

Dimensions in mm.

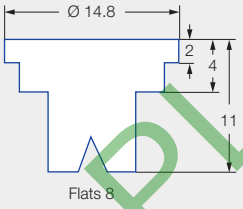
- Standard flat spray nozzle (ST)
- Nozzle-in-cap system MULTIJET (SC)

## Advantages

- Color coding in accordance with ISO Standard 10625
- Inexpensive flat spray nozzle
- SC: Nozzle in cap with MULTIJET bayonet system (incl. gasket) for
  – lower assembly and storage costs
  – simple and fast assembly
- Suitable for PWM

ST

ST-C




SC

**Series ST/SC**

**Application:**

**Plant protection products and growth regulators**

**Edge application**
**Can be combined with border nozzle OC**

**Backpack sprayer**
Series ST only

**Technical data:**

**Nozzle sizes**
01–08

**Spray angles**
80°, 110°

**Materials**
POM, ceramic, brass on request

**Pressure ranges**
- SC 025 to -05: **2–3**–5 bar
- ST 01 to -08: **2–3**–5 bar

**Recommended strainers**
- 80 M 01–015
- 60 M 02–04
- 25 M 05–08

**Droplet sizes**
Coarse – very fine

**Width across flats**
8 mm

**Spray heights**
- ST 80°: 60–**75**–90 cm
- ST 110°: 40–**50**–60 cm

| | | [l/min] | [l/ha] 0.5m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h |
| ST 110-01 80-01 (80 M) | 2.0 | 0.32 | 77 | 64 | 55 | 48 | 38 | 32 | 27 | 24 | 21 |
| | 2.5 | 0.36 | 86 | 72 | 62 | 54 | 43 | 36 | 31 | 27 | 24 |
| | 3.0 | 0.39 | 94 | 78 | 67 | 59 | 47 | 39 | 33 | 29 | 26 |
| | 4.0 | 0.45 | 108 | 90 | 77 | 68 | 54 | 45 | 39 | 34 | 30 |
| | 5.0 | 0.51 | 122 | 102 | 87 | 77 | 61 | 51 | 44 | 38 | 34 |
| ST 110-015 80-015 (80 M) | 2.0 | 0.48 | 115 | 96 | 82 | 72 | 58 | 48 | 41 | 36 | 32 |
| | 2.5 | 0.54 | 130 | 108 | 93 | 81 | 65 | 54 | 46 | 41 | 36 |
| | 3.0 | 0.59 | 142 | 118 | 101 | 89 | 71 | 59 | 51 | 44 | 39 |
| | 4.0 | 0.68 | 163 | 136 | 117 | 102 | 82 | 68 | 58 | 51 | 45 |
| | 5.0 | 0.76 | 182 | 152 | 130 | 114 | 91 | 76 | 65 | 57 | 51 |
| ST 110-02 80-02 (60 M) | 2.0 | 0.65 | 156 | 130 | 111 | 98 | 78 | 65 | 56 | 49 | 43 |
| | 2.5 | 0.73 | 175 | 146 | 125 | 110 | 88 | 73 | 63 | 55 | 49 |
| | 3.0 | 0.80 | 192 | 160 | 137 | 120 | 96 | 80 | 69 | 60 | 53 |
| | 4.0 | 0.92 | 221 | 184 | 158 | 138 | 110 | 92 | 79 | 69 | 61 |
| | 5.0 | 1.03 | 247 | 206 | 177 | 155 | 124 | 103 | 88 | 77 | 69 |
| SC/ST 110-025 (60 M) | 2.0 | 0.81 | 194 | 162 | 139 | 122 | 97 | 81 | 69 | 61 | 54 |
| | 2.5 | 0.91 | 218 | 182 | 156 | 137 | 109 | 91 | 78 | 68 | 61 |
| | 3.0 | 0.99 | 238 | 198 | 170 | 149 | 119 | 99 | 85 | 74 | 66 |
| | 4.0 | 1.15 | 276 | 230 | 197 | 173 | 138 | 115 | 99 | 86 | 77 |
| | 5.0 | 1.28 | 307 | 256 | 219 | 192 | 154 | 128 | 110 | 96 | 85 |
| SC/ST 110-03 80-03 (60 M) | 2.0 | 0.97 | 233 | 194 | 166 | 146 | 116 | 97 | 83 | 73 | 65 |
| | 2.5 | 1.08 | 259 | 216 | 185 | 162 | 130 | 108 | 93 | 81 | 72 |
| | 3.0 | 1.19 | 286 | 238 | 204 | 179 | 143 | 119 | 102 | 89 | 79 |
| | 4.0 | 1.37 | 329 | 274 | 235 | 206 | 164 | 137 | 117 | 103 | 91 |
| | 5.0 | 1.53 | 367 | 306 | 262 | 230 | 184 | 153 | 131 | 115 | 102 |
| SC/ST 110-04 80-04 (60 M) | 2.0 | 1.29 | 310 | 258 | 221 | 194 | 155 | 129 | 111 | 97 | 86 |
| | 2.5 | 1.44 | 346 | 288 | 247 | 216 | 173 | 144 | 123 | 108 | 96 |
| | 3.0 | 1.58 | 379 | 316 | 271 | 237 | 190 | 158 | 135 | 119 | 105 |
| | 4.0 | 1.82 | 437 | 364 | 312 | 273 | 218 | 182 | 156 | 137 | 121 |
| | 5.0 | 2.04 | 490 | 408 | 350 | 306 | 245 | 204 | 175 | 153 | 136 |
| SC/ST 110-05 80-05 (25 M) | 2.0 | 1.61 | 386 | 322 | 276 | 242 | 193 | 161 | 138 | 121 | 107 |
| | 2.5 | 1.80 | 432 | 360 | 309 | 270 | 216 | 180 | 154 | 135 | 120 |
| | 3.0 | 1.97 | 473 | 394 | 338 | 296 | 236 | 197 | 169 | 148 | 131 |
| | 4.0 | 2.28 | 547 | 456 | 391 | 342 | 274 | 228 | 195 | 171 | 152 |
| | 5.0 | 2.55 | 612 | 510 | 437 | 383 | 306 | 255 | 219 | 191 | 170 |
| ST 110-06 80-06 (25 M) | 2.0 | 1.93 | 463 | 386 | 331 | 290 | 232 | 193 | 165 | 145 | 129 |
| | 2.5 | 2.16 | 518 | 432 | 370 | 324 | 259 | 216 | 185 | 162 | 144 |
| | 3.0 | 2.36 | 566 | 472 | 405 | 354 | 283 | 236 | 202 | 177 | 157 |
| | 4.0 | 2.73 | 655 | 546 | 468 | 410 | 328 | 273 | 234 | 205 | 182 |
| | 5.0 | 3.05 | 732 | 610 | 523 | 458 | 366 | 305 | 261 | 229 | 203 |
| ST 110-08 80-08 (25 M) | 2.0 | 2.58 | 619 | 516 | 442 | 387 | 310 | 258 | 221 | 194 | 172 |
| | 2.5 | 2.88 | 691 | 576 | 494 | 432 | 346 | 288 | 247 | 216 | 192 |
| | 3.0 | 3.16 | 758 | 632 | 542 | 474 | 379 | 316 | 271 | 237 | 211 |
| | 4.0 | 3.65 | 876 | 730 | 626 | 548 | 438 | 365 | 313 | 274 | 243 |
| | 5.0 | 4.08 | 979 | 816 | 699 | 612 | 490 | 408 | 350 | 306 | 272 |

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to water
- Verify the table values by gauging the flow rates prior to every spraying season
- Pay attention to uniform nozzle adjustment

| Ordering example: | Series | + | Spray angle | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|---|---|
| | SC | + | 110° | + | 03 | + | (POM) | = | SC 110-03 |
| | ST | + | 110° | + | 06 | + | (POM) | = | ST 110-06 |
| | ST | + | 110° | + | 06 | + | C (Ceramic) | = | ST 110-06 C |

NEW

# Twin flat spray nozzles
## XDT 130

Crop production | Ground care

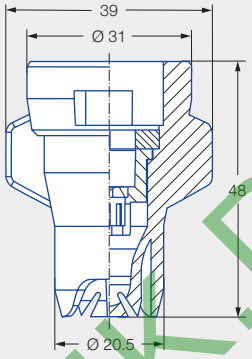
Dimensions in mm.

- Extreme drift reduction over the entire pressure range
- Symmetrical twin flat spray jet 40°/40° to the front/rear

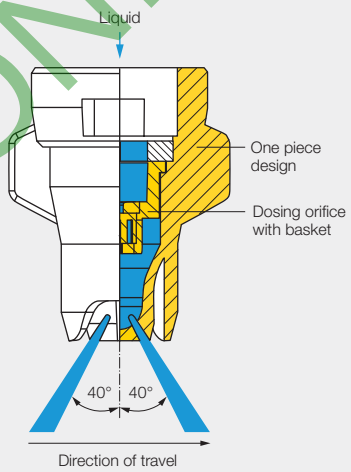
### Advantages

- High workrate due to wide control range
- Optimum deposition with reduced spray shadow
- Nozzle in cap with MULTIJET bayonet system (incl. gasket)
- For timely application even under adverse weather conditions
- Suitable for PWM

Series XDT 130




Dosing orifice with basket, can be removed without tools




**Application:**

**Plant protection products**

**Golf course**

**Technical data:**

**Nozzle sizes**
02–08

**Spray angle**
130°

**Material**
POM

**Pressure ranges**
1.5–8 bar

**Recommended strainers**
60 M 02–08

**Droplet sizes**
Ultra coarse – extremely coarse

| | | [l/min] | [l/ha] 0.5m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h |
| XDT 130-02 (60 M) | 1.5 | 0.56 | 134 | 112 | 96 | 84 | 67 | 56 | 48 | 42 | 37 |
| | 2.0 | 0.65 | 156 | 130 | 111 | 98 | 78 | 65 | 56 | 49 | 43 |
| | 3.0 | 0.80 | 192 | 160 | 137 | 120 | 96 | 80 | 69 | 60 | 53 |
| | 4.0 | 0.92 | 221 | 184 | 158 | 138 | 110 | 92 | 79 | 69 | 61 |
| | 5.0 | 1.03 | 247 | 206 | 177 | 155 | 124 | 103 | 88 | 77 | 69 |
| | 6.0 | 1.13 | 271 | 226 | 194 | 170 | 136 | 113 | 97 | 85 | 75 |
| | 7.0 | 1.22 | 293 | 244 | 209 | 183 | 146 | 122 | 105 | 92 | 81 |
| | 8.0 | 1.30 | 312 | 260 | 223 | 195 | 156 | 130 | 111 | 98 | 87 |
| XDT 130-025 (60 M) | 1.5 | 0.70 | 168 | 140 | 120 | 105 | 84 | 70 | 60 | 53 | 47 |
| | 2.0 | 0.81 | 194 | 162 | 139 | 122 | 97 | 81 | 69 | 61 | 54 |
| | 3.0 | 0.99 | 238 | 198 | 170 | 149 | 119 | 99 | 85 | 74 | 66 |
| | 4.0 | 1.15 | 276 | 230 | 197 | 173 | 138 | 115 | 99 | 86 | 77 |
| | 5.0 | 1.28 | 307 | 256 | 219 | 192 | 154 | 128 | 110 | 96 | 85 |
| | 6.0 | 1.40 | 336 | 280 | 240 | 210 | 168 | 140 | 120 | 105 | 93 |
| | 7.0 | 1.52 | 365 | 304 | 261 | 228 | 182 | 152 | 130 | 114 | 101 |
| | 8.0 | 1.62 | 389 | 324 | 278 | 243 | 194 | 162 | 139 | 122 | 108 |
| XDT 130-03 (60 M) | 1.5 | 0.84 | 202 | 168 | 144 | 126 | 101 | 84 | 72 | 63 | 56 |
| | 2.0 | 0.97 | 233 | 194 | 166 | 146 | 116 | 97 | 83 | 73 | 65 |
| | 3.0 | 1.19 | 286 | 238 | 204 | 179 | 143 | 119 | 102 | 89 | 79 |
| | 4.0 | 1.37 | 329 | 274 | 235 | 206 | 164 | 137 | 117 | 103 | 91 |
| | 5.0 | 1.53 | 367 | 306 | 262 | 230 | 184 | 153 | 131 | 115 | 102 |
| | 6.0 | 1.68 | 403 | 336 | 288 | 252 | 202 | 168 | 144 | 126 | 112 |
| | 7.0 | 1.81 | 434 | 362 | 310 | 272 | 217 | 181 | 155 | 136 | 121 |
| | 8.0 | 1.94 | 466 | 388 | 333 | 291 | 233 | 194 | 166 | 146 | 129 |
| XDT 130-04 (60 M) | 1.5 | 1.12 | 269 | 224 | 192 | 168 | 134 | 112 | 96 | 84 | 75 |
| | 2.0 | 1.29 | 310 | 258 | 221 | 194 | 155 | 129 | 111 | 97 | 86 |
| | 3.0 | 1.58 | 379 | 316 | 271 | 237 | 190 | 158 | 135 | 119 | 105 |
| | 4.0 | 1.82 | 437 | 364 | 312 | 273 | 218 | 182 | 156 | 137 | 121 |
| | 5.0 | 2.04 | 490 | 408 | 350 | 306 | 245 | 204 | 175 | 153 | 136 |
| | 6.0 | 2.23 | 535 | 446 | 382 | 335 | 268 | 223 | 191 | 167 | 149 |
| | 7.0 | 2.41 | 578 | 482 | 413 | 362 | 289 | 241 | 207 | 181 | 161 |
| | 8.0 | 2.58 | 619 | 516 | 442 | 387 | 310 | 258 | 221 | 194 | 172 |
| XDT 130-05 (60 M) | 1.5 | 1.39 | 334 | 278 | 238 | 209 | 167 | 139 | 119 | 104 | 93 |
| | 2.0 | 1.61 | 386 | 322 | 276 | 242 | 193 | 161 | 138 | 121 | 107 |
| | 3.0 | 1.97 | 473 | 394 | 338 | 296 | 236 | 197 | 169 | 148 | 131 |
| | 4.0 | 2.28 | 547 | 456 | 391 | 342 | 274 | 228 | 195 | 171 | 152 |
| | 5.0 | 2.55 | 612 | 510 | 437 | 383 | 306 | 255 | 219 | 191 | 170 |
| | 6.0 | 2.79 | 670 | 558 | 478 | 419 | 335 | 279 | 239 | 209 | 186 |
| | 7.0 | 3.01 | 722 | 602 | 516 | 452 | 361 | 301 | 258 | 226 | 201 |
| | 8.0 | 3.22 | 773 | 644 | 552 | 483 | 386 | 322 | 276 | 242 | 215 |
| XDT 130-06 (60 M) | 1.5 | 1.67 | 401 | 334 | 286 | 251 | 200 | 167 | 143 | 125 | 111 |
| | 2.0 | 1.93 | 463 | 386 | 331 | 290 | 232 | 193 | 165 | 145 | 129 |
| | 3.0 | 2.36 | 566 | 472 | 405 | 354 | 283 | 236 | 202 | 177 | 157 |
| | 4.0 | 2.73 | 655 | 546 | 468 | 410 | 328 | 273 | 234 | 205 | 182 |
| | 5.0 | 3.05 | 732 | 610 | 523 | 458 | 366 | 305 | 261 | 229 | 203 |
| | 6.0 | 3.34 | 802 | 668 | 573 | 501 | 401 | 334 | 286 | 251 | 223 |
| | 7.0 | 3.61 | 866 | 722 | 619 | 542 | 433 | 361 | 309 | 271 | 241 |
| | 8.0 | 3.86 | 926 | 772 | 662 | 579 | 463 | 386 | 331 | 290 | 257 |
| XDT 130-08 (60 M) | 1.5 | 2.23 | 535 | 446 | 382 | 335 | 268 | 223 | 191 | 167 | 149 |
| | 2.0 | 2.58 | 619 | 516 | 442 | 387 | 310 | 258 | 221 | 194 | 172 |
| | 3.0 | 3.16 | 758 | 632 | 542 | 474 | 379 | 316 | 271 | 237 | 211 |
| | 4.0 | 3.65 | 876 | 730 | 626 | 548 | 438 | 365 | 313 | 274 | 243 |
| | 5.0 | 4.08 | 979 | 816 | 699 | 612 | 490 | 408 | 350 | 306 | 272 |
| | 6.0 | 4.47 | 1,073 | 894 | 766 | 671 | 536 | 447 | 383 | 335 | 298 |
| | 7.0 | 4.83 | 1,159 | 966 | 828 | 725 | 580 | 483 | 414 | 362 | 322 |
| | 8.0 | 5.16 | 1,238 | 1,032 | 885 | 774 | 619 | 516 | 442 | 387 | 344 |

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to water
- Verify the table values by gauging the flow rates prior to every spraying season
- Pay attention to uniform nozzle adjustment

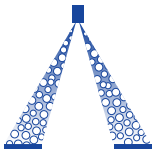
**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

| Ordering example: | Series | + Nozzle size | + Material | = Order No. |
|---|---|---|---|---|
| | XDT 130 | + 02 | + (POM) | = XDT 130-02 |

# Asymmetrical air-injector twin flat spray nozzles IDTA

IDTA
Twin Asymmetric Full Coverage



Crop production | Ground care

PATENTED

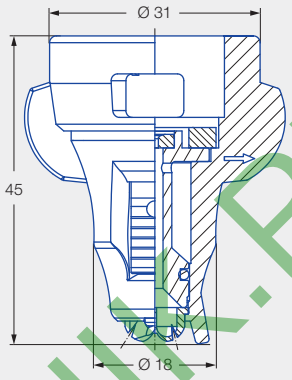
Dimensions in mm.

- Air-aspirating asymmetrical twin flat spray nozzle
- Extremely low-drift

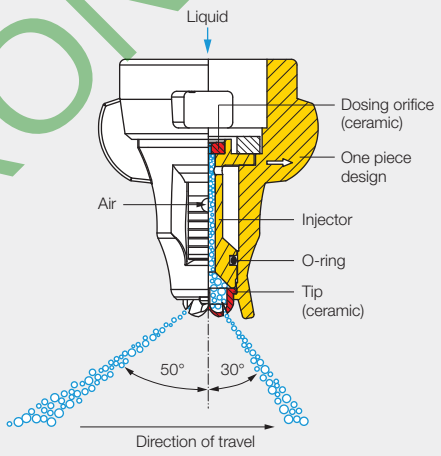
## Advantages

- 95 % drift reduction for: IDTA 120-05 C
- 90 % drift reduction for: IDTA 120-025 C to -04 C
- Ideal for higher sprayer speeds due to 30°/50° spray configuration
- Uniform deposition through 60/40 flow rate distribution
- Identical spray width on the target area due to 90°/120° spray angle
- Optimum wetting through finer droplet spectrum to the front in direction of travel
- Drift-reducing coarser droplet spectrum to the rear
- Optimum user protection thanks to removal/installation of the injector with protective gloves without tools
- Nozzle in cap with MULTIJET bayonet system (incl. gasket)
- Suitable for PWM

Series IDTA




Injector can be removed without tools

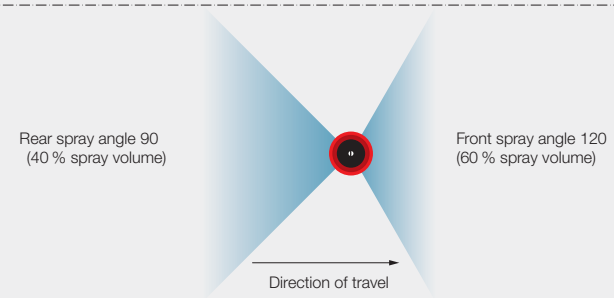



**JKI approval as loss-reducing: 95/90/75 %**

G 2015, G 2016, G 2017, G 2018, G 2019, G 2020, G 2021, G 2022, G 2043

JKI approval for mixed equipment and border nozzle IS.

Current list at: www.lechler.com/de-en/service/loss-reducing




### Application:

- **Plant protection products**
- **Edge application** Can be combined with border nozzle IS 80
- **Golf course**

### Technical data:

- **Nozzle sizes** 02–08
- **Spray angle** 120° front/ 90° rear
- **Material** Ceramic
- **Pressure ranges** 1–**4**–8 bar
- **Recommended strainers**
  - 80 M 02
  - 60 M 025–08
- **Droplet sizes** Ultra coarse – coarse

| | ISO 25358 | | [l/min] | [l/ha] 0.5m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h |
| IDTA 120-02 (80 M) | UC | 1.0 | 0.46 | 110 | 92 | 79 | 69 | 55 | 46 | 39 | 35 | 31 |
| | UC | 1.5 | 0.56 | 134 | 112 | 96 | 84 | 67 | 56 | 48 | 42 | 37 |
| | UC | 2.0 | 0.65 | 156 | 130 | 111 | 98 | 78 | 65 | 56 | 49 | 43 |
| | VC | 3.0 | 0.80 | 192 | 160 | 137 | 120 | 96 | 80 | 69 | 60 | 53 |
| | VC | 4.0 | 0.92 | 221 | 184 | 158 | 138 | 110 | 92 | 79 | 69 | 61 |
| | VC | 5.0 | 1.03 | 247 | 206 | 177 | 155 | 124 | 103 | 88 | 77 | 69 |
| | VC | 6.0 | 1.13 | 271 | 226 | 194 | 170 | 136 | 113 | 97 | 85 | 75 |
| | VC | 7.0 | 1.22 | 293 | 244 | 209 | 183 | 146 | 122 | 105 | 92 | 81 |
| | VC | 8.0 | 1.30 | 312 | 260 | 223 | 195 | 156 | 130 | 111 | 98 | 87 |
| IDTA 120-025 (60 M) | UC | 1.0 | 0.57 | 137 | 114 | 98 | 86 | 68 | 57 | 49 | 43 | 38 |
| | UC | 1.5 | 0.70 | 168 | 140 | 120 | 105 | 84 | 70 | 60 | 53 | 47 |
| | UC | 2.0 | 0.81 | 194 | 162 | 139 | 122 | 97 | 81 | 69 | 61 | 54 |
| | EC | 3.0 | 0.99 | 238 | 198 | 170 | 149 | 119 | 99 | 85 | 74 | 66 |
| | VC | 4.0 | 1.15 | 276 | 230 | 197 | 173 | 138 | 115 | 99 | 86 | 77 |
| | VC | 5.0 | 1.28 | 307 | 256 | 219 | 192 | 154 | 128 | 110 | 96 | 85 |
| | VC | 6.0 | 1.40 | 336 | 280 | 240 | 210 | 168 | 140 | 120 | 105 | 93 |
| | VC | 7.0 | 1.52 | 365 | 304 | 261 | 228 | 182 | 152 | 130 | 114 | 101 |
| | VC | 8.0 | 1.62 | 389 | 324 | 278 | 243 | 194 | 162 | 139 | 122 | 108 |
| IDTA 120-03 (60 M) | UC | 1.0 | 0.69 | 166 | 138 | 118 | 104 | 83 | 69 | 59 | 52 | 46 |
| | UC | 1.5 | 0.84 | 202 | 168 | 144 | 126 | 101 | 84 | 72 | 63 | 56 |
| | EC | 2.0 | 0.97 | 233 | 194 | 166 | 146 | 116 | 97 | 83 | 73 | 65 |
| | VC | 3.0 | 1.19 | 286 | 238 | 204 | 179 | 143 | 119 | 102 | 89 | 79 |
| | VC | 4.0 | 1.37 | 329 | 274 | 235 | 206 | 164 | 137 | 117 | 103 | 91 |
| | VC | 5.0 | 1.53 | 367 | 306 | 262 | 230 | 184 | 153 | 131 | 115 | 102 |
| | VC | 6.0 | 1.68 | 403 | 336 | 288 | 252 | 202 | 168 | 144 | 126 | 112 |
| | VC | 7.0 | 1.81 | 434 | 362 | 310 | 272 | 217 | 181 | 155 | 136 | 121 |
| | VC | 8.0 | 1.94 | 466 | 388 | 333 | 291 | 233 | 194 | 166 | 146 | 129 |
| IDTA 120-04 (60 M) | UC | 1.0 | 0.91 | 218 | 182 | 156 | 137 | 109 | 91 | 78 | 68 | 61 |
| | UC | 1.5 | 1.12 | 269 | 224 | 192 | 168 | 134 | 112 | 96 | 84 | 75 |
| | EC | 2.0 | 1.29 | 310 | 258 | 221 | 194 | 155 | 129 | 111 | 97 | 86 |
| | VC | 3.0 | 1.58 | 379 | 316 | 271 | 237 | 190 | 158 | 135 | 119 | 105 |
| | VC | 4.0 | 1.82 | 437 | 364 | 312 | 273 | 218 | 182 | 156 | 137 | 121 |
| | VC | 5.0 | 2.04 | 490 | 408 | 350 | 306 | 245 | 204 | 175 | 153 | 136 |
| | VC | 6.0 | 2.23 | 535 | 446 | 382 | 335 | 268 | 223 | 191 | 167 | 149 |
| | VC | 7.0 | 2.41 | 578 | 482 | 413 | 362 | 289 | 241 | 207 | 181 | 161 |
| | C | 8.0 | 2.58 | 619 | 516 | 442 | 387 | 310 | 258 | 221 | 194 | 172 |
| IDTA 120-05 (60 M) | UC | 1.0 | 1.14 | 274 | 228 | 195 | 171 | 137 | 114 | 98 | 86 | 76 |
| | UC | 1.5 | 1.39 | 334 | 278 | 238 | 209 | 167 | 139 | 119 | 104 | 93 |
| | EC | 2.0 | 1.61 | 386 | 322 | 276 | 242 | 193 | 161 | 138 | 121 | 107 |
| | VC | 3.0 | 1.97 | 473 | 394 | 338 | 296 | 236 | 197 | 169 | 148 | 131 |
| | VC | 4.0 | 2.28 | 547 | 456 | 391 | 342 | 274 | 228 | 195 | 171 | 152 |
| | VC | 5.0 | 2.55 | 612 | 510 | 437 | 383 | 306 | 255 | 219 | 191 | 170 |
| | VC | 6.0 | 2.79 | 670 | 558 | 478 | 419 | 335 | 279 | 239 | 209 | 186 |
| | C | 7.0 | 3.01 | 722 | 602 | 516 | 452 | 361 | 301 | 258 | 226 | 201 |
| | C | 8.0 | 3.22 | 773 | 644 | 552 | 483 | 386 | 322 | 276 | 242 | 215 |
| IDTA 120-06 (60 M) | UC | 1.0 | 1.36 | 326 | 272 | 233 | 204 | 163 | 136 | 117 | 102 | 91 |
| | UC | 1.5 | 1.67 | 401 | 334 | 286 | 251 | 200 | 167 | 143 | 125 | 111 |
| | EC | 2.0 | 1.93 | 463 | 386 | 331 | 290 | 232 | 193 | 165 | 145 | 129 |
| | VC | 3.0 | 2.36 | 566 | 472 | 405 | 354 | 283 | 236 | 202 | 177 | 157 |
| | VC | 4.0 | 2.73 | 655 | 546 | 468 | 410 | 328 | 273 | 234 | 205 | 182 |
| | VC | 5.0 | 3.05 | 732 | 610 | 523 | 458 | 366 | 305 | 261 | 229 | 203 |
| | VC | 6.0 | 3.34 | 802 | 668 | 573 | 501 | 401 | 334 | 286 | 251 | 223 |
| | C | 7.0 | 3.61 | 866 | 722 | 619 | 542 | 433 | 361 | 309 | 271 | 241 |
| | C | 8.0 | 3.86 | 926 | 772 | 662 | 579 | 463 | 386 | 331 | 290 | 257 |
| IDTA 120-08 (60 M) | UC | 1.0 | 1.82 | 437 | 364 | 312 | 273 | 218 | 182 | 156 | 137 | 121 |
| | UC | 1.5 | 2.23 | 535 | 446 | 382 | 335 | 268 | 223 | 191 | 167 | 149 |
| | EC | 2.0 | 2.58 | 619 | 516 | 442 | 387 | 310 | 258 | 221 | 194 | 172 |
| | VC | 3.0 | 3.16 | 758 | 632 | 542 | 474 | 379 | 316 | 271 | 237 | 211 |
| | VC | 4.0 | 3.65 | 876 | 730 | 626 | 548 | 438 | 365 | 313 | 274 | 243 |
| | VC | 5.0 | 4.08 | 979 | 816 | 699 | 612 | 490 | 408 | 350 | 306 | 272 |
| | VC | 6.0 | 4.47 | 1,073 | 894 | 766 | 671 | 536 | 447 | 383 | 335 | 298 |
| | C | 7.0 | 4.83 | 1,159 | 966 | 828 | 725 | 580 | 483 | 414 | 362 | 322 |
| | C | 8.0 | 5.16 | 1,238 | 1,032 | 885 | 774 | 619 | 516 | 442 | 387 | 344 |

**ISO 25358 classification according to droplet sizes:**

| | |
|---|---|
| VF | Very fine |
| F | Fine |
| M | Medium |
| C | Coarse |
| VC | Very coarse |
| EC | Extremely coarse |
| UC | Ultra coarse |

Subject to modifications.

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to water
- Verify the table values by gauging the flow rates prior to every spraying season
- Pay attention to uniform nozzle adjustment

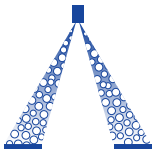
**Recommendation**
You can find adapters for other bayonet systems on Page 125.

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

| Ordering example: | Series | + Spray angle | + Nozzle size | + Material | = Order No. |
|---|---|---|---|---|---|
| | IDTA | + 120° | + 025 | + C (Ceramic) | = IDTA 120-025 C |

# Compact symmetrical air-injector twin flat spray nozzles IDKT



**Crop production** | **Ground care**

Dimensions in mm.

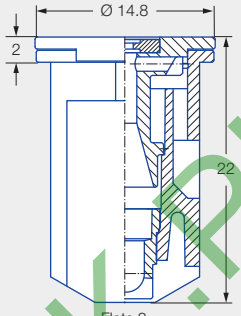
- Very low-drift, air-aspirating twin flat spray nozzle

## Advantages

- Optimum deposition thanks to symmetrical twin flat spray jet 30°/30°
- Reduced spray shadow
- 90 % drift reduction for: IDKT 120-02 to -06
- Compact design
- Low drift and loss-reducing in the pressure range up to 3 bar (depending on size)
- Suitable for PWM

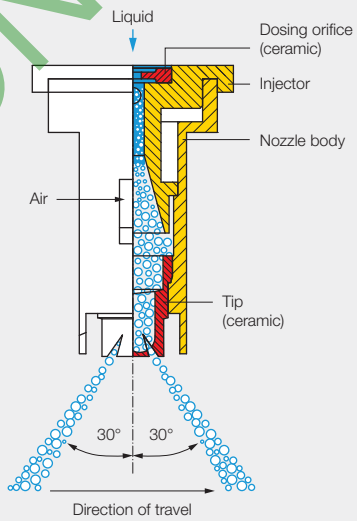
**IDKT**

**IDKT-C**




**Series IDKT**

**Injector can be removed without tools**




**JKI approval as loss-reducing: 90/75/50 %**

G 1836, G 1837, G 1865, G 1882, G 1883, G 1884, G 1911, G 1912, G 1932, G 1933, G 1934, G 1935, G 1937

JKI approval for mixed equipment and border nozzle IS.

**Current list at: www.lechler.com/de-en/service/loss-reducing**

**Application:**

- **Plant protection products**
- **Spray frame**
- **Edge application** Can be combined with border nozzle IDKS 80
- **Golf course**
- **Greenhouse**

**Technical data:**

- **Nozzle sizes** 015–10
- **Spray angle** 120°
- **Materials** POM, ceramic
- **Pressure ranges**
  - IDKT 015 bis -025 **1.5–3**–6 bar
  - IDKT 03 bis -06 1–**1.5–3**–6 bar
- **Recommended strainers**
  - 80 M 015–02
  - 60 M 025–08
  - 25 M 10
- **Droplet sizes** Ultra coarse – medium
- **Width across flats** 8 mm

| | ISO 25358 | bar | [l/min] | [l/ha] 0.5m | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h |
| IDKT 120-015 (80 M) | UC | 1.5 | 0.42 | 101 | 84 | 72 | 63 | 50 | 42 | 36 | 32 | 28 |
| | EC | 2.0 | 0.48 | 115 | 96 | 82 | 72 | 58 | 48 | 41 | 36 | 32 |
| | VC | 3.0 | 0.59 | 142 | 118 | 101 | 89 | 71 | 59 | 51 | 44 | 39 |
| | VC | 4.0 | 0.68 | 163 | 136 | 117 | 102 | 82 | 68 | 58 | 51 | 45 |
| | VC | 5.0 | 0.76 | 182 | 152 | 130 | 114 | 91 | 76 | 65 | 57 | 51 |
| | VC | 6.0 | 0.83 | 199 | 166 | 142 | 125 | 100 | 83 | 71 | 62 | 55 |
| IDKT 120-02 (80 M) | EC | 1.5 | 0.56 | 134 | 112 | 96 | 84 | 67 | 56 | 48 | 42 | 37 |
| | EC | 2.0 | 0.65 | 156 | 130 | 111 | 98 | 78 | 65 | 56 | 49 | 43 |
| | VC | 3.0 | 0.80 | 192 | 160 | 137 | 120 | 96 | 80 | 69 | 60 | 53 |
| | VC | 4.0 | 0.92 | 221 | 184 | 158 | 138 | 110 | 92 | 79 | 69 | 61 |
| | C | 5.0 | 1.03 | 247 | 206 | 177 | 155 | 124 | 103 | 88 | 77 | 69 |
| | C | 6.0 | 1.13 | 271 | 226 | 194 | 170 | 136 | 113 | 97 | 85 | 75 |
| IDKT 120-025 (60 M) | EC | 1.5 | 0.70 | 168 | 140 | 120 | 105 | 84 | 70 | 60 | 53 | 47 |
| | VC | 2.0 | 0.81 | 194 | 162 | 139 | 122 | 97 | 81 | 69 | 61 | 54 |
| | VC | 3.0 | 0.99 | 238 | 198 | 170 | 149 | 119 | 99 | 85 | 74 | 66 |
| | VC | 4.0 | 1.15 | 276 | 230 | 197 | 173 | 138 | 115 | 99 | 86 | 77 |
| | C | 5.0 | 1.28 | 307 | 256 | 219 | 192 | 154 | 128 | 110 | 96 | 85 |
| | M | 6.0 | 1.40 | 336 | 280 | 240 | 210 | 168 | 140 | 120 | 105 | 93 |
| IDKT 120-03 (60 M) | UC | 1.0 | 0.69 | 166 | 138 | 118 | 104 | 83 | 69 | 59 | 61 | 54 |
| | EC | 1.5 | 0.84 | 202 | 168 | 144 | 126 | 101 | 84 | 72 | 63 | 56 |
| | EC | 2.0 | 0.97 | 233 | 194 | 166 | 146 | 116 | 97 | 83 | 73 | 65 |
| | VC | 3.0 | 1.19 | 286 | 238 | 204 | 179 | 143 | 119 | 102 | 89 | 79 |
| | VC | 4.0 | 1.37 | 329 | 274 | 235 | 206 | 164 | 137 | 117 | 103 | 91 |
| | VC | 5.0 | 1.53 | 367 | 306 | 262 | 230 | 184 | 153 | 131 | 115 | 102 |
| | C | 6.0 | 1.68 | 403 | 336 | 288 | 252 | 202 | 168 | 144 | 126 | 112 |
| IDKT 120-04 (60 M) | EC | 1.0 | 0.91 | 218 | 182 | 156 | 137 | 109 | 91 | 78 | 68 | 61 |
| | EC | 1.5 | 1.12 | 269 | 224 | 192 | 168 | 134 | 112 | 96 | 84 | 75 |
| | VC | 2.0 | 1.29 | 310 | 258 | 221 | 194 | 155 | 129 | 111 | 97 | 86 |
| | VC | 3.0 | 1.58 | 379 | 316 | 271 | 237 | 190 | 158 | 135 | 119 | 105 |
| | VC | 4.0 | 1.82 | 437 | 364 | 312 | 273 | 218 | 182 | 156 | 137 | 121 |
| | C | 5.0 | 2.04 | 490 | 408 | 350 | 306 | 245 | 204 | 175 | 153 | 136 |
| | C | 6.0 | 2.23 | 535 | 446 | 382 | 335 | 268 | 223 | 191 | 167 | 149 |
| IDKT 120-05 (60 M) | UC | 1.0 | 1.14 | 274 | 228 | 195 | 171 | 137 | 114 | 98 | 86 | 76 |
| | EC | 1.5 | 1.39 | 334 | 278 | 238 | 209 | 167 | 139 | 119 | 104 | 93 |
| | VC | 2.0 | 1.61 | 386 | 322 | 276 | 242 | 193 | 161 | 138 | 121 | 107 |
| | VC | 3.0 | 1.97 | 473 | 394 | 338 | 296 | 236 | 197 | 169 | 148 | 131 |
| | VC | 4.0 | 2.28 | 547 | 456 | 391 | 342 | 274 | 228 | 195 | 171 | 152 |
| | C | 5.0 | 2.55 | 612 | 510 | 437 | 383 | 306 | 255 | 219 | 191 | 170 |
| | C | 6.0 | 2.79 | 670 | 558 | 478 | 419 | 335 | 279 | 239 | 209 | 186 |
| IDKT 120-06 (60 M) | UC | 1.0 | 1.36 | 326 | 272 | 233 | 204 | 163 | 136 | 117 | 102 | 91 |
| | EC | 1.5 | 1.67 | 401 | 334 | 286 | 251 | 200 | 167 | 143 | 125 | 111 |
| | VC | 2.0 | 1.93 | 463 | 386 | 331 | 290 | 232 | 193 | 165 | 145 | 129 |
| | VC | 3.0 | 2.36 | 566 | 472 | 405 | 354 | 283 | 236 | 202 | 177 | 157 |
| | VC | 4.0 | 2.73 | 655 | 546 | 468 | 410 | 328 | 273 | 234 | 205 | 182 |
| | C | 5.0 | 3.05 | 732 | 610 | 523 | 458 | 366 | 305 | 261 | 229 | 203 |
| | C | 6.0 | 3.34 | 802 | 668 | 573 | 501 | 401 | 334 | 286 | 251 | 223 |
| IDKT 120-08 (60 M) | EC | 1.0 | 1.82 | 437 | 364 | 312 | 273 | 218 | 182 | 156 | 137 | 121 |
| | EC | 1.5 | 2.23 | 535 | 446 | 382 | 335 | 268 | 223 | 191 | 167 | 149 |
| | VC | 2.0 | 2.58 | 619 | 516 | 442 | 387 | 310 | 258 | 221 | 194 | 172 |
| | VC | 3.0 | 3.16 | 758 | 632 | 542 | 474 | 379 | 316 | 271 | 237 | 211 |
| | C | 4.0 | 3.65 | 876 | 730 | 626 | 548 | 438 | 365 | 313 | 274 | 243 |
| | C | 5.0 | 4.08 | 979 | 816 | 699 | 612 | 490 | 408 | 350 | 306 | 272 |
| | C | 6.0 | 4.47 | 1,073 | 894 | 766 | 671 | 536 | 447 | 383 | 335 | 298 |
| IDKT 120-10 (25 M) | UC | 1.0 | 2.27 | 545 | 454 | 389 | 341 | 272 | 227 | 195 | 170 | 151 |
| | EC | 1.5 | 2.79 | 670 | 558 | 478 | 419 | 335 | 279 | 239 | 209 | 186 |
| | VC | 2.0 | 3.22 | 773 | 644 | 552 | 483 | 386 | 322 | 276 | 242 | 215 |
| | VC | 3.0 | 3.94 | 946 | 788 | 675 | 591 | 473 | 394 | 338 | 296 | 263 |
| | C | 4.0 | 4.55 | 1,092 | 910 | 780 | 683 | 546 | 455 | 390 | 341 | 303 |
| | C | 5.0 | 5.09 | 1,222 | 1,018 | 873 | 764 | 611 | 509 | 436 | 382 | 339 |
| | C | 6.0 | 5.57 | 1,337 | 1,114 | 955 | 836 | 668 | 557 | 477 | 418 | 371 |

**ISO 25358 classification according to droplet sizes:**

| | |
|---|---|
| VF | Very fine |
| F | Fine |
| M | Medium |
| C | Coarse |
| VC | Very coarse |
| EC | Extremely coarse |
| UC | Ultra coarse |

Subject to modifications.

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to water
- Verify the table values by gauging the flow rates prior to every spraying season
- Pay attention to uniform nozzle adjustment

**Recommendation**
Optimum protection of IDKT nozzles thanks to long design of MultiCap (see Page 124).

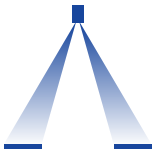
Available fully assembled with IDKT nozzles.

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here:
**www.lechler.com/de-en/service/apps**

| Ordering example: | Series | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|
| | IDKT | + | 04 | + | (POM) | = | IDKT 04 |
| | IDKT | + | 04 | + | C (Ceramic) | = | IDKT 04 C |
| | MultiCap IDKT | + | 04 | + | (POM) | = | MultiCap IDKT 04 |

# Twin flat spray nozzles
## DF



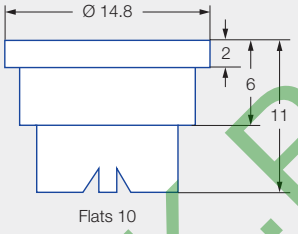
Crop production | Ground care

Dimensions in mm.

- Standard twin flat spray nozzle for fine-droplet application

### Advantages

- Symmetrical twin flat spray jet 30°/30°
- Good wetting even on vertical target surfaces
- Low risk of clogging due to central supply flow cross-section
- Suitable for PWM




**Series DF**

**Application:**

**Plant protection products**

**Edge application**
**Can be combined with border nozzle OC**

**Technical data:**

**Nozzle sizes**
02–06

**Spray angle**
120°

**Material**
Stainless steel

**Pressure ranges**
**2–3**–5 bar

**Recommended strainers**
- 80 M 02–03
- 60 M 04–06

**Droplet sizes**
Medium – very fine

**Width across flats**
10 mm

| | | [l/min] | [l/ha] 0.5m | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 4.0 km/h | 5.0 km/h | 5.5 km/h | 6.0 km/h | 6.5 km/h | 7.0 km/h | 7.5 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h |
| **DF 120-02 (80 M)** | 2.0 | 0.65 | 195 | 156 | 142 | 130 | 120 | 111 | 104 | 98 | 78 | 65 |
| | 2.5 | 0.73 | 219 | 175 | 159 | 146 | 135 | 125 | 117 | 110 | 88 | 73 |
| | 3.0 | 0.80 | 240 | 192 | 175 | 160 | 148 | 137 | 128 | 120 | 96 | 80 |
| | 3.5 | 0.86 | 258 | 206 | 188 | 172 | 159 | 147 | 138 | 129 | 103 | 86 |
| | 4.0 | 0.92 | 276 | 221 | 201 | 184 | 170 | 158 | 147 | 138 | 110 | 92 |
| | 4.5 | 0.98 | 294 | 235 | 214 | 196 | 181 | 168 | 157 | 147 | 118 | 98 |
| | 5.0 | 1.03 | 309 | 247 | 225 | 206 | 190 | 177 | 165 | 155 | 124 | 103 |
| **DF 120-03 (80 M)** | 2.0 | 0.97 | 291 | 233 | 212 | 194 | 179 | 166 | 155 | 146 | 116 | 97 |
| | 2.5 | 1.08 | 324 | 259 | 236 | 216 | 199 | 185 | 173 | 162 | 130 | 108 |
| | 3.0 | 1.19 | 357 | 286 | 260 | 238 | 220 | 204 | 190 | 179 | 143 | 119 |
| | 3.5 | 1.28 | 384 | 307 | 279 | 256 | 236 | 219 | 205 | 192 | 154 | 128 |
| | 4.0 | 1.37 | 411 | 329 | 299 | 274 | 253 | 235 | 219 | 206 | 164 | 137 |
| | 4.5 | 1.46 | 438 | 350 | 319 | 292 | 270 | 250 | 234 | 219 | 175 | 146 |
| | 5.0 | 1.53 | 459 | 367 | 334 | 306 | 282 | 262 | 245 | 230 | 184 | 153 |
| **DF 120-04 (60 M)** | 2.0 | 1.29 | 387 | 310 | 281 | 258 | 238 | 221 | 206 | 194 | 155 | 129 |
| | 2.5 | 1.44 | 432 | 346 | 314 | 288 | 266 | 247 | 230 | 216 | 173 | 144 |
| | 3.0 | 1.58 | 474 | 379 | 345 | 316 | 292 | 271 | 253 | 237 | 190 | 158 |
| | 3.5 | 1.71 | 513 | 410 | 373 | 342 | 316 | 293 | 274 | 257 | 205 | 171 |
| | 4.0 | 1.82 | 546 | 437 | 397 | 364 | 336 | 312 | 291 | 273 | 218 | 182 |
| | 4.5 | 1.94 | 582 | 466 | 423 | 388 | 358 | 333 | 310 | 291 | 233 | 194 |
| | 5.0 | 2.04 | 612 | 490 | 445 | 408 | 377 | 350 | 326 | 306 | 245 | 204 |
| **DF 120-05 (60 M)** | 2.0 | 1.61 | 483 | 386 | 351 | 322 | 297 | 276 | 258 | 242 | 193 | 161 |
| | 2.5 | 1.80 | 540 | 432 | 393 | 360 | 332 | 309 | 288 | 270 | 216 | 180 |
| | 3.0 | 1.97 | 591 | 473 | 430 | 394 | 364 | 338 | 315 | 296 | 236 | 197 |
| | 3.5 | 2.13 | 639 | 511 | 465 | 426 | 393 | 365 | 341 | 320 | 256 | 213 |
| | 4.0 | 2.28 | 684 | 547 | 497 | 456 | 421 | 391 | 365 | 342 | 274 | 228 |
| | 4.5 | 2.42 | 726 | 581 | 528 | 484 | 447 | 415 | 387 | 363 | 290 | 242 |
| | 5.0 | 2.55 | 765 | 612 | 556 | 510 | 471 | 437 | 408 | 383 | 306 | 255 |
| **DF 120-06 (60 M)** | 2.0 | 1.93 | 579 | 463 | 421 | 386 | 356 | 331 | 309 | 290 | 232 | 193 |
| | 2.5 | 2.16 | 648 | 518 | 471 | 432 | 399 | 370 | 346 | 324 | 259 | 216 |
| | 3.0 | 2.36 | 708 | 566 | 515 | 472 | 436 | 405 | 378 | 354 | 283 | 236 |
| | 3.5 | 2.55 | 765 | 612 | 556 | 510 | 471 | 437 | 408 | 383 | 306 | 255 |
| | 4.0 | 2.73 | 819 | 655 | 596 | 546 | 504 | 468 | 437 | 410 | 328 | 273 |
| | 4.5 | 2.90 | 870 | 696 | 633 | 580 | 535 | 497 | 464 | 435 | 348 | 290 |
| | 5.0 | 3.05 | 915 | 732 | 665 | 610 | 563 | 523 | 488 | 458 | 366 | 305 |

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to water
- Verify the table values by gauging the flow rates prior to every spraying season
- Pay attention to uniform nozzle adjustment

| Ordering example: | Series | + Nozzle size | + Material | = Order No. |
|---|---|---|---|---|
| | DF | + 02 | + S (stainless steel) | = DF 02 S |

# TwinSprayCap
## Bayonet combination cap for air-injector nozzles and flat spray nozzles

**Crop production** | Ground care

- Bayonet combination cap (incl. gasket) with symmetrical twin flat spray jet 30°/30°
- Flexible nozzle equipment possible

### Advantages
- Variable nozzle selection also of different nozzle types and sizes
- Enhanced deposition through combination of low-drift injector nozzles and standard flat spray nozzles
- MULTIJET and Hardi suitable for flat spray nozzles AF 8 and 10
- MULTIJET with round hole bore 12.8 mm suitable for hollow cone and flat spray nozzles
- Simple nozzle assembly without tools through plug-in clip system
- Assembly via MULTIJET and Hardi bayonet system or intermediate and extension adapters (see Page 125)

**Application:**

**Plant protection products** | **Spray frame** | **Dropleg$^{UL}$** | **Golf course** | **Greenhouse**

**Technical data:**

**Width across flats**
8 and 10 mm and round hole

MULTIJET
**Order No.: 092.163.56.00**

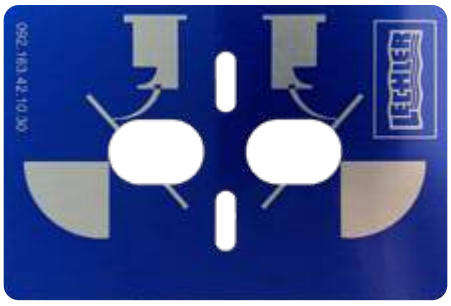
MULTIJET with round hole bore
e.g. for use on Dropleg$^{UL}$ (see Page 123)
**Order No.: 092.163.56.10**

Hardi
**Order No.: 092.163.56.01**

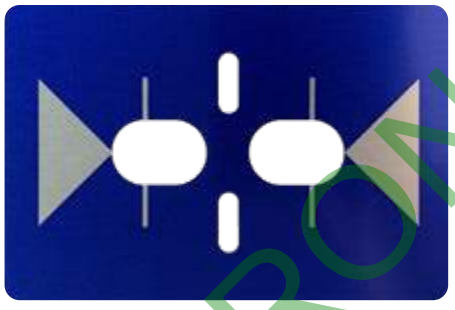
## Nozzle adjustment template for Dropleg$^{UL}$ applications

The template can be used to adjust the correct nozzle angle when using the TwinSprayCap with round hole bore. When using flood nozzles, this can be done with a screwdriver to align the slot on the front of the flood nozzle with the line on the template. In the case of flat spray nozzles, alignment is performed with an open-end wrench AF 8/10. If the key surfaces of the nozzle are parallel to the lines on the template, this also corresponds to the flat spray jet alignment. The template contains two adjustment examples (front/rear side) with lateral alignment and 180° alignment up/down.

Front side




Rear side



Adjustment template
**Order No. 092.163.42.10.30**

## Note on assembly

Wet gasket with water before fitting on the nozzle holder.

## Information for determination of nozzle size

Selection of the nozzle size by l/ha spray tables – the correct nozzle size corresponds to the determined nozzle size divided by 2.

## Example

Two -02 corresponds to the l/ha rate of -04; alternatively equipment with one -015 and one -025 also corresponds to the l/ha rate of -04.

**Note**
You can find further information on Dropleg$^{UL}$ and accessories on Page 123.

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here:
**www.lechler.com/de-en/service/apps**

| Ordering example: | Series | = | Order No. |
|---|---|---|---|
| | TwinSprayCap (incl. gasket no. 095.015.6C.10.13.0) System MULTIJET | = | 092.163.56.00 |
| | TwinSprayCap (incl. gasket no. 095.015.6C.10.13.0) System MULTIJET, round hole bore | = | 092.163.56.10 |
| | TwinSprayCap (incl. gasket no. 095.015.73.01.60.0) System Hardi | = | 092.163.56.01 |
| | Adjustment template for TwinSprayCap round hole bore | = | 092.163.42.10.30 |

# Flood nozzles
# FT 140/FT 90

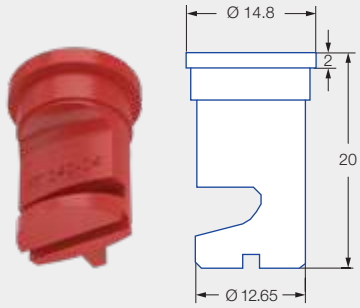
**Crop production** | **Ground care**

Dimensions in mm.

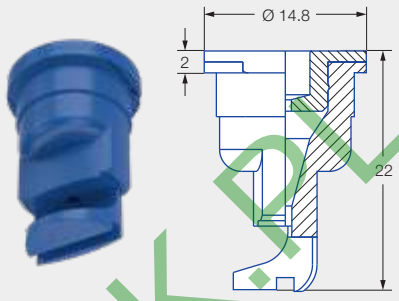
- Blockage-resistant flat spray nozzle
- Compact design

## Advantages

- Large, round flow cross-sections
- Rinsing free of impact surface in the event of soiling
- Jet build-up already from 1 bar
- Clogging-resistant nozzle for gentle application of nematodes and compost tea
- FT 90 with particularly low drift thanks to pre-atomizer
- 90 % drift reduction for FT 90-03 in Dropleg[UL] and for band spraying
- Suitable for PWM




FT 140



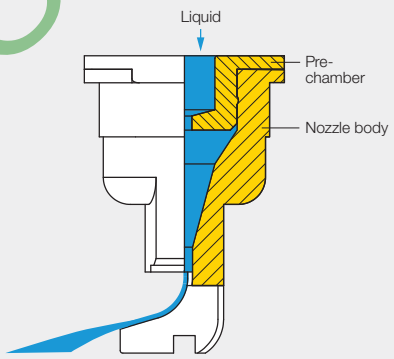

FT 90

**Series FT**

**JKI approval as loss-reducing: 90/75/50 %**

G 2086

**Current list at: www.lechler.com/de-en/service/loss-reducing**




**Pre-atomizer can be removed without tools**

### Application:

- **Plant protection products and growth regulators**
- **Backpack sprayer**
- **Dropleg[UL]**
- **Greenhouse**
- **Band spraying FT 90**

### Technical data:

**Nozzle sizes**
01–20

**Spray angles**
90°, 140°

**Materials**
POM, stainless steel, brass

**Pressure ranges**
- FT 90: **1**–**3**–6 bar
- FT 140: **1**–**2**–3 bar

**Recommended strainers**
- 80 M 01
- 60 M 015–04
- 25 M 05–20

**Droplet sizes**
- FT 90: Extremely coarse – fine
- FT 140: Very coarse – fine

**Union nut**
Ø 12.65 mm

**Spray heights**
- FT 90°: 60–**75**–90 cm
- FT 140°: 40 cm

| | ISO 25358 | | | [l/min] | [l/ha] 0.5m | | | | | | l/ha 0.75 m | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FT 90 | FT 140 | | | 6.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 6.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h |
| FT 90-01 140-01 (80 M) | EC | | 1.0 | 0.23 | 46 | 35 | 28 | 23 | 20 | 17 | 31 | 23 | 18 | 15 | 13 | 12 |
| | C | VC | 2.0 | 0.32 | 64 | 48 | 38 | 32 | 27 | 24 | 43 | 32 | 26 | 21 | 18 | 16 |
| | M | C | 3.0 | 0.39 | 78 | 59 | 47 | 39 | 33 | 29 | 52 | 39 | 31 | 26 | 22 | 20 |
| | M | | 4.0 | 0.45 | 90 | 68 | 54 | 45 | 39 | 34 | 60 | 45 | 36 | 30 | 26 | 23 |
| | F | | 6.0 | 0.55 | 110 | 83 | 66 | 55 | 47 | 41 | 73 | 55 | 44 | 37 | 31 | 28 |
| FT 90-015 140-015 (60 M) | EC | VC | 1.0 | 0.34 | 68 | 51 | 41 | 34 | 29 | 26 | 45 | 34 | 27 | 23 | 19 | 17 |
| | M | M | 2.0 | 0.48 | 96 | 72 | 58 | 48 | 41 | 36 | 64 | 48 | 38 | 32 | 27 | 24 |
| | M | F | 3.0 | 0.59 | 118 | 89 | 71 | 59 | 51 | 44 | 79 | 59 | 47 | 39 | 34 | 30 |
| | M | | 4.0 | 0.68 | 136 | 102 | 82 | 68 | 58 | 51 | 91 | 68 | 54 | 45 | 39 | 34 |
| | F | | 6.0 | 0.83 | 166 | 125 | 100 | 83 | 71 | 62 | 111 | 83 | 66 | 55 | 47 | 42 |
| FT 90-02 140-02 (60 M) | VC | VC | 1.0 | 0.46 | 92 | 69 | 55 | 46 | 39 | 35 | 61 | 46 | 37 | 31 | 26 | 23 |
| | M | F | 2.0 | 0.65 | 130 | 98 | 78 | 65 | 56 | 49 | 87 | 65 | 52 | 43 | 37 | 33 |
| | M | F | 3.0 | 0.80 | 160 | 120 | 96 | 80 | 69 | 60 | 107 | 80 | 64 | 53 | 46 | 40 |
| | M | | 4.0 | 0.92 | 184 | 138 | 110 | 92 | 79 | 69 | 123 | 92 | 74 | 61 | 53 | 46 |
| | F | | 6.0 | 1.13 | 226 | 170 | 136 | 113 | 97 | 85 | 151 | 113 | 90 | 75 | 65 | 57 |
| FT 90-03 140-03 (60 M) | VC | C | 1.0 | 0.69 | 138 | 104 | 83 | 69 | 59 | 52 | 92 | 69 | 55 | 46 | 39 | 35 |
| | M | F | 2.0 | 0.97 | 194 | 146 | 116 | 97 | 83 | 73 | 129 | 97 | 78 | 65 | 55 | 49 |
| | M | F | 3.0 | 1.19 | 238 | 179 | 143 | 119 | 102 | 89 | 159 | 119 | 95 | 79 | 68 | 60 |
| | M | | 4.0 | 1.37 | 274 | 206 | 164 | 137 | 117 | 103 | 183 | 137 | 110 | 91 | 78 | 69 |
| | M | | 6.0 | 1.68 | 336 | 252 | 202 | 168 | 144 | 126 | 224 | 168 | 134 | 112 | 96 | 84 |
| FT 90-04 140-04 (60 M) | VC | M | 1.0 | 0.91 | 182 | 137 | 109 | 91 | 78 | 68 | 121 | 91 | 73 | 61 | 52 | 46 |
| | C | F | 2.0 | 1.29 | 258 | 194 | 155 | 129 | 111 | 97 | 172 | 129 | 103 | 86 | 74 | 65 |
| | M | M | 3.0 | 1.58 | 316 | 237 | 190 | 158 | 135 | 119 | 211 | 158 | 126 | 105 | 90 | 79 |
| | M | | 4.0 | 1.82 | 364 | 273 | 218 | 182 | 156 | 137 | 243 | 182 | 146 | 121 | 104 | 91 |
| | M | | 6.0 | 2.23 | 446 | 335 | 268 | 223 | 191 | 167 | 297 | 223 | 178 | 149 | 127 | 112 |
| FT 90-05 140-05 (25 M) | VC | M | 1.0 | 1.14 | 228 | 171 | 137 | 114 | 98 | 86 | 152 | 114 | 91 | 76 | 65 | 57 |
| | C | F | 2.0 | 1.61 | 322 | 242 | 193 | 161 | 138 | 121 | 215 | 161 | 129 | 107 | 92 | 81 |
| | C | M | 3.0 | 1.97 | 394 | 296 | 236 | 197 | 169 | 148 | 263 | 197 | 158 | 131 | 113 | 99 |
| | M | | 4.0 | 2.27 | 454 | 341 | 272 | 227 | 195 | 170 | 303 | 227 | 182 | 151 | 130 | 114 |
| | M | | 6.0 | 2.79 | 558 | 419 | 335 | 279 | 239 | 209 | 372 | 279 | 223 | 186 | 159 | 140 |
| FT 140-06 (25 M) | | M | 1.0 | 1.36 | 272 | 204 | 163 | 136 | 117 | 102 | 181 | 136 | 109 | 91 | 78 | 68 |
| | | M | 2.0 | 1.93 | 386 | 290 | 232 | 193 | 165 | 145 | 257 | 193 | 154 | 129 | 110 | 97 |
| | | M | 3.0 | 2.36 | 472 | 354 | 283 | 236 | 202 | 177 | 315 | 236 | 189 | 157 | 135 | 118 |
| FT 140-08 (25 M) | | M | 1.0 | 1.82 | 364 | 273 | 218 | 182 | 156 | 137 | 243 | 182 | 146 | 121 | 104 | 91 |
| | | M | 2.0 | 2.58 | 516 | 387 | 310 | 258 | 221 | 194 | 344 | 258 | 206 | 172 | 147 | 129 |
| | | M | 3.0 | 3.16 | 632 | 474 | 379 | 316 | 271 | 237 | 421 | 316 | 253 | 211 | 181 | 158 |
| FT 140-10 (25 M) | | M | 1.0 | 2.27 | 454 | 341 | 272 | 227 | 195 | 170 | 303 | 227 | 182 | 151 | 130 | 114 |
| | | M | 2.0 | 3.22 | 644 | 483 | 386 | 322 | 276 | 242 | 429 | 322 | 258 | 215 | 184 | 161 |
| | | M | 3.0 | 3.94 | 788 | 591 | 473 | 394 | 338 | 296 | 525 | 394 | 315 | 263 | 225 | 197 |
| FT 140-15 (25 M) | | C | 1.0 | 3.41 | 682 | 512 | 409 | 341 | 292 | 256 | 455 | 341 | 273 | 227 | 195 | 171 |
| | | C | 2.0 | 4.83 | 966 | 725 | 580 | 483 | 414 | 362 | 644 | 483 | 386 | 322 | 276 | 242 |
| | | C | 3.0 | 5.91 | 1,182 | 887 | 709 | 591 | 507 | 443 | 788 | 591 | 473 | 394 | 338 | 296 |
| FT 140-20 (25 M) | | C | 1.0 | 4.55 | 910 | 683 | 546 | 455 | 390 | 341 | 607 | 455 | 364 | 303 | 260 | 228 |
| | | C | 2.0 | 6.43 | 1,286 | 965 | 772 | 643 | 551 | 482 | 857 | 643 | 514 | 429 | 367 | 322 |
| | | C | 3.0 | 7.88 | 1,576 | 1,182 | 946 | 788 | 675 | 591 | 1,051 | 788 | 630 | 525 | 450 | 394 |

**ISO 25358 classification according to droplet sizes:**

| | |
|---|---|
| VF | Very fine |
| F | Fine |
| M | Medium |
| C | Coarse |
| VC | Very coarse |
| EC | Extremely coarse |
| UC | Ultra coarse |

Subject to modifications.

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to water
- Verify the table values by gauging the flow rates prior to every spraying season
- Pay attention to uniform nozzle adjustment

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

| Ordering example: | Series | + | Spray angle | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|---|---|
| | FT | + | 90° | + | 01 | + | (POM) | = | FT 90-01 |
| | FT | + | 140° | + | 01 | + | (POM) | = | FT 140-01 |
| | FT | + | 140° | + | 01 | + | M (brass) | = | FT 140-01 M |
| | FT | + | 140° | + | 01 | + | S (stainless steel) | = | FT 140-01 S |

# Air-injector flat spray nozzles
# ID-90

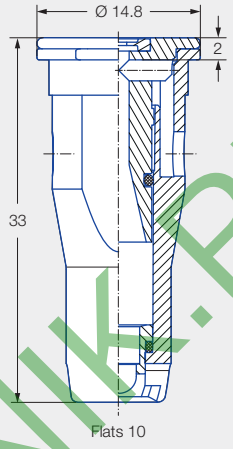
**Crop production**

Dimensions in mm.

- Air-aspirating flat spray nozzle
- Extremely low drift over the entire pressure range

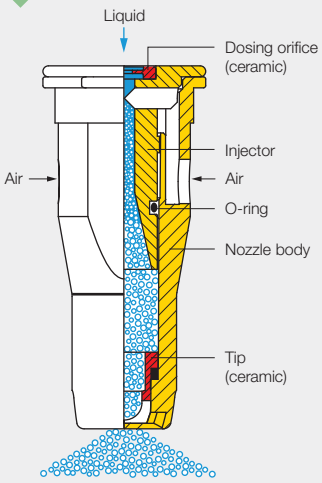
## Advantages

- In new, optimized ID3 design
- Extended pressure range from 2 to 20 bar
- Exceptionally low-drift also in the high pressure range up to 20 bar
- Large, clogging-resistant flow cross-sections
- Significantly improved crop penetration
- Suitable for PWM




**Series ID-90**

**Injector can be removed without tools**




**Application:**

- **Plant protection products and growth regulators**
- **Plant protection in viticulture, orchard and specialty crops**
- **Sensor control**
- **Vertical boom**
- **Spray frame**

**Technical data:**

- **Nozzle sizes** 01–06
- **Spray angle** 90°
- **Material** Ceramic
- **Pressure ranges** 2–**8**–**15**–20 bar
- **Recommended strainers**
  - 60 M 01–04
  - 25 M 05–06
- **Droplet sizes** Ultra coarse – medium
- **Width across flats** 10 mm

## Good to know

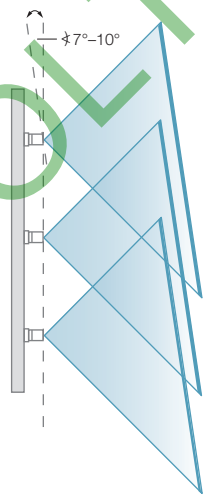
You can find detailed information in our brochure “Viticulture, orchard and specialty crops” and at **www.lechler-agri.com**

| | | [l/min] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 | 19.0 | 20.0 |
| ID-90-01 | 60 M | 0.32 | 0.39 | 0.45 | 0.51 | 0.55 | 0.60 | 0.64 | 0.68 | 0.72 | 0.75 | 0.78 | 0.82 | 0.85 | 0.88 | 0.91 | 0.93 | 0.99 | 1.01 |
| ID-90-015 | 60 M | 0.48 | 0.59 | 0.68 | 0.76 | 0.83 | 0.90 | 0.96 | 1.02 | 1.07 | 1.13 | 1.18 | 1.22 | 1.27 | 1.31 | 1.36 | 1.40 | 1.48 | 1.52 |
| ID-90-02 | 60 M | 0.65 | 0.80 | 0.92 | 1.03 | 1.13 | 1.22 | 1.30 | 1.38 | 1.45 | 1.53 | 1.60 | 1.67 | 1.73 | 1.79 | 1.85 | 1.90 | 2.01 | 2.07 |
| ID-90-025 | 60 M | 0.81 | 0.99 | 1.15 | 1.28 | 1.40 | 1.52 | 1.62 | 1.71 | 1.81 | 1.90 | 1.98 | 2.06 | 2.14 | 2.21 | 2.29 | 2.36 | 2.49 | 2.56 |
| ID-90-03 | 60 M | 0.97 | 1.19 | 1.37 | 1.53 | 1.68 | 1.81 | 1.94 | 2.06 | 2.17 | 2.28 | 2.38 | 2.48 | 2.57 | 2.66 | 2.75 | 2.83 | 2.99 | 3.07 |
| ID-90-04 | 60 M | 1.29 | 1.58 | 1.82 | 2.04 | 2.23 | 2.41 | 2.58 | 2.74 | 2.88 | 3.03 | 3.16 | 3.29 | 3.41 | 3.53 | 3.65 | 3.76 | 3.98 | 4.08 |
| ID-90-05 | 25 M | 1.61 | 1.97 | 2.28 | 2.55 | 2.79 | 3.01 | 3.22 | 3.42 | 3.60 | 3.77 | 3.94 | 4.10 | 4.26 | 4.41 | 4.55 | 4.69 | 4.96 | 5.09 |
| ID-90-06 | 25 M | 1.93 | 2.36 | 2.73 | 3.05 | 3.34 | 3.61 | 3.86 | 4.09 | 4.32 | 4.52 | 4.72 | 4.91 | 5.10 | 5.28 | 5.45 | 5.62 | 5.94 | 6.09 |

- The stated l/ha values apply to water
- Check the nozzles by gauging the flow rates prior to every spraying season
- Pressure measured at the nozzle

## Assembly

Alignment of the flat jet spray jet of the ID nozzles parallel to the air flow of the sprayer, use open-end wrench AF 10.




Nozzle assembly:

- With cup strainer, gasket 3.0 mm (Order No. **065.240.73.01**)
- Without cup strainer, gasket 5.0 mm (Order No. **095.015.6C.07.10**)

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

| Ordering example: | Series | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|
| | ID-90 | + | 02 | + | C (Ceramic) | = | ID-90-02 C |

# Compact air-injector flat spray nozzles
# IDK 90

**Crop production**

- Air-aspirating flat spray nozzle
- Extremely low drift over the entire pressure range

## Advantages

- 99/95/90/75/50 % drift reduction for: IDK 90-0067 C to -02 C
- Only 7 mm longer than TR hollow cone nozzle
- Large, clogging-resistant cross-sections
- Breakage-resistant nozzle housing with beveled edges and reinforced walls
- Suitable for PWM

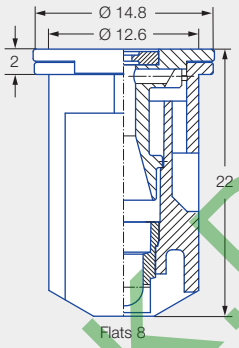
**JKI approval as loss-reducing: 99/95/90/75/50 %**

G 1834, G 1835, G 1886, G 1941, G 2052, G 2053

**Current list at: www.lechler.com/de-en/service/loss-reducing**

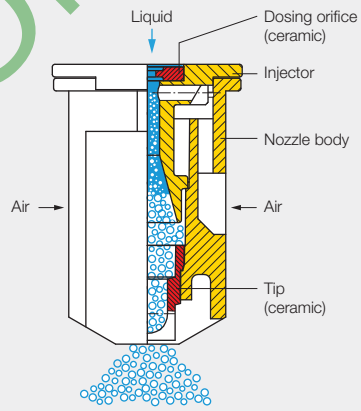

**IDK 90-01 C**
75 % drift reduction in accordance with MABO dosage

Dimensions in mm.




**Series IDK 90**


**Injector can be removed without tools**




**Application:**

- **Plant protection products and growth regulators**
- **Plant protection in viticulture, orchard and specialty crops**
- **Sensor control**
- **Vertical boom**
- **Spray frame**

**Technical data:**

- **Nozzle sizes** 0067–06
- **Spray angle** 90°
- **Material** Ceramic
- **Pressure ranges** 2–**8**–**15**–20 bar
- **Recommended strainers**
  - 60 M 0067–04
  - 25 M 05–06
- **Droplet sizes** Extremely coarse – fine
- **Width across flats** 8 mm

## Good to know

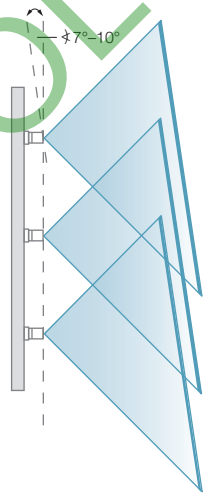
You can find detailed information in our brochure “Viticulture, orchard and specialty crops” and at **www.lechler-agri.com**

| | | [l/min] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 | 19.0 | 20.0 |
| IDK 90-0067 | 60 M | 0.22 | 0.27 | 0.31 | 0.35 | 0.38 | 0.41 | 0.44 | 0.47 | 0.49 | 0.52 | 0.54 | 0.56 | 0.58 | 0.60 | 0.62 | 0.64 | 0.68 | 0.70 |
| IDK 90-01 | 60 M | 0.32 | 0.39 | 0.45 | 0.51 | 0.55 | 0.60 | 0.64 | 0.68 | 0.72 | 0.75 | 0.78 | 0.82 | 0.85 | 0.88 | 0.91 | 0.93 | 0.99 | 1.01 |
| IDK 90-015 | 60 M | 0.48 | 0.59 | 0.68 | 0.76 | 0.83 | 0.90 | 0.96 | 1.02 | 1.07 | 1.13 | 1.18 | 1.22 | 1.27 | 1.31 | 1.36 | 1.40 | 1.48 | 1.52 |
| IDK 90-02 | 60 M | 0.65 | 0.80 | 0.92 | 1.03 | 1.13 | 1.22 | 1.30 | 1.38 | 1.45 | 1.53 | 1.60 | 1.67 | 1.73 | 1.79 | 1.85 | 1.90 | 2.01 | 2.07 |
| IDK 90-025 | 60 M | 0.81 | 0.99 | 1.15 | 1.28 | 1.40 | 1.52 | 1.62 | 1.71 | 1.81 | 1.90 | 1.98 | 2.06 | 2.14 | 2.21 | 2.29 | 2.36 | 2.49 | 2.56 |
| IDK 90-03 | 60 M | 0.97 | 1.19 | 1.37 | 1.53 | 1.68 | 1.81 | 1.94 | 2.06 | 2.17 | 2.28 | 2.38 | 2.48 | 2.57 | 2.66 | 2.75 | 2.83 | 2.99 | 3.07 |
| IDK 90-04 | 60 M | 1.29 | 1.58 | 1.82 | 2.04 | 2.23 | 2.41 | 2.58 | 2.74 | 2.88 | 3.03 | 3.16 | 3.29 | 3.41 | 3.53 | 3.65 | 3.76 | 3.98 | 4.08 |
| IDK 90-05 | 25 M | 1.61 | 1.97 | 2.28 | 2.55 | 2.79 | 3.01 | 3.22 | 3.42 | 3.60 | 3.77 | 3.94 | 4.10 | 4.26 | 4.41 | 4.55 | 4.69 | 4.96 | 5.09 |
| IDK 90-06 | 25 M | 1.93 | 2.36 | 2.73 | 3.05 | 3.34 | 3.61 | 3.86 | 4.09 | 4.32 | 4.52 | 4.72 | 4.91 | 5.10 | 5.28 | 5.45 | 5.62 | 5.94 | 6.09 |

- The stated l/ha values apply to water
- Check the nozzles by gauging the flow rates prior to every spraying season
- Pressure measured at the nozzle

## Assembly

Alignment of the flat jet spray jet of the IDK nozzles parallel to the air flow of the sprayer, use open-end wrench AF 8.




Nozzle assembly:

- With cup strainer, gasket 3.0 mm (Order No. **065.240.73.01**)
- Without cup strainer, gasket 5.0 mm (Order No. **095.015.6C.07.10**)

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

| Ordering example: | Series | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|
| | IDK 90 | + | 02 | + | C (Ceramic) | = | IDK 90-02 C |

# Anti-drift flat spray nozzles
## AD 90

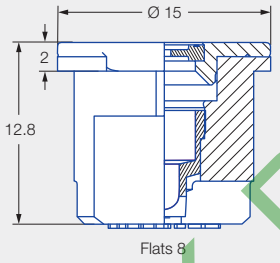
**Crop production**

Dimensions in mm.

- Low-drift flat spray nozzle

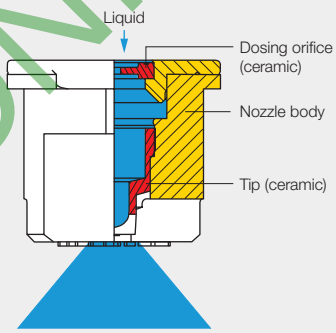
### Advantages

- 99/95/90/75/50 % drift reduction for: AD 90-01 C to -04 C
- Fine droplets at higher pressure
- Pre-atomizer can be removed without tools
- NEW Pre-atomizer has flush contact with twist lock
- Ideal for cramped installation conditions (4 mm shorter than TR hollow cone nozzle) thanks to compact design
- Ideal for sensor control thanks to very fast jet build-up and reduction
- Suitable for PWM




**Series AD 90**

**Pre-atomizer can be removed without tools**




**JKI approval as loss-reducing: 99/95/90/75/50 %**

G 1666, G 1667, G 1668, G 2041, G 2042

**Current list at: www.lechler.com/de-en/service/loss-reducing**

### Application:

- **Plant protection products and growth regulators**
- **Plant protection in viticulture, orchard and specialty crops**
- **Sensor control**
- **Vertical boom**

### Technical data:

- **Nozzle sizes** 0067 – 04
- **Spray angle** 90°
- **Material** Ceramic
- **Pressure ranges** 2 – **8** – **15** – 20 bar
- **Recommended strainers** 60 M 0067 – 04
- **Droplet sizes** Coarse – fine
- **Width across flats** 8 mm

## Good to know

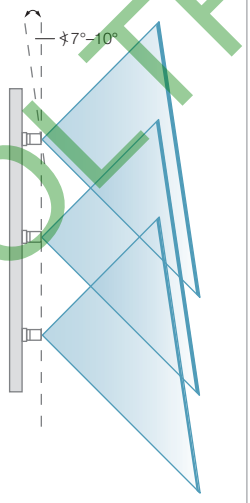
You can find detailed information in our brochure “Viticulture, orchard and specialty crops” and at **www.lechler-agri.com**

| | | [l/min] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 | 19.0 | 20.0 |
| AD 90-0067 | 60 M | 0.22 | 0.27 | 0.31 | 0.35 | 0.38 | 0.41 | 0.44 | 0.47 | 0.49 | 0.52 | 0.54 | 0.56 | 0.58 | 0.60 | 0.62 | 0.64 | 0.68 | 0.70 |
| AD 90-01 | 60 M | 0.32 | 0.39 | 0.45 | 0.51 | 0.55 | 0.60 | 0.64 | 0.68 | 0.72 | 0.75 | 0.78 | 0.82 | 0.85 | 0.88 | 0.91 | 0.93 | 0.99 | 1.01 |
| AD 90-015 | 60 M | 0.48 | 0.59 | 0.68 | 0.76 | 0.83 | 0.90 | 0.96 | 1.02 | 1.07 | 1.13 | 1.18 | 1.22 | 1.27 | 1.31 | 1.36 | 1.40 | 1.48 | 1.52 |
| AD 90-02 | 60 M | 0.65 | 0.80 | 0.92 | 1.03 | 1.13 | 1.22 | 1.30 | 1.38 | 1.45 | 1.53 | 1.60 | 1.67 | 1.73 | 1.79 | 1.85 | 1.90 | 2.01 | 2.07 |
| AD 90-025 | 60 M | 0.81 | 0.99 | 1.15 | 1.28 | 1.40 | 1.52 | 1.62 | 1.71 | 1.81 | 1.90 | 1.98 | 2.06 | 2.14 | 2.21 | 2.29 | 2.36 | 2.49 | 2.56 |
| AD 90-03 | 60 M | 0.97 | 1.19 | 1.37 | 1.53 | 1.68 | 1.81 | 1.94 | 2.06 | 2.17 | 2.28 | 2.38 | 2.48 | 2.57 | 2.66 | 2.75 | 2.83 | 2.99 | 3.07 |
| AD 90-04 | 60 M | 1.29 | 1.58 | 1.82 | 2.04 | 2.23 | 2.41 | 2.58 | 2.74 | 2.88 | 3.03 | 3.16 | 3.29 | 3.41 | 3.53 | 3.65 | 3.76 | 3.98 | 4.08 |

- The stated l/ha values apply to water
- Check the nozzles by gauging the flow rates prior to every spraying season
- Pressure measured at the nozzle

## Assembly

Alignment of the flat jet spray jet of the AD nozzles parallel to the air flow of the sprayer, use open-end wrench AF 8.




Nozzle assembly:

- With cup strainer, gasket 3.0 mm (Order No. **065.240.73.01**)
- Without cup strainer, gasket 5.0 mm (Order No. **095.015.6C.07.10**)

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

| Ordering example: | Series | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|
| | AD 90 | + | 02 | + | C (Ceramic) | = | AD 90-02 C |

# Hollow cone nozzles
# TR 80/TR 60

Crop production | Ground care

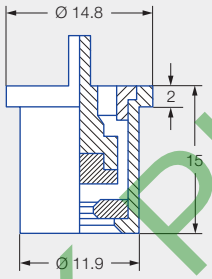
Dimensions in mm.

- Fine-droplet hollow cone nozzle with 60° and 80° spray angle

### TR 80 advantages

- Optimized, narrow droplet spectrum
- Fine droplets ensure high coverage
- Nozzle insert secured to prevent it falling out by means of snap closure
- Resistant to clogging due to round hole bore
- Suitable for PWM

Series TR 80

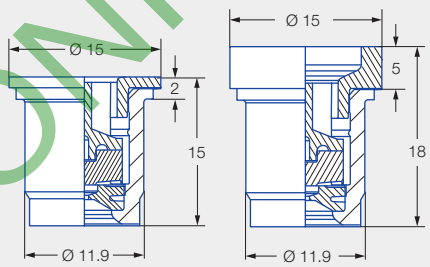


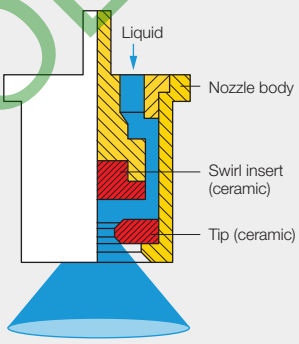

NEW

### TR 60 advantages

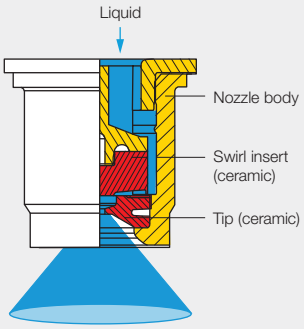
- Improved image of air flow due to spray angle of 60°
- Simple handling also with protective gloves
- Quick insert removal without tools for cleaning
- Increased stability thanks to reinforced housing
- Even more uniform spray pattern thanks to new swirl insert design
- Increased wear resistance
- Available with 2 mm and 5 mm nozzle collar
- Suitable for PWM

Series TR 60




TR 80




TR 60

G 1496, G 1497, G 1498

**Current list at:**
**www.lechler.com/de-en/service/loss-reducing**

**Application:**

- **Plant protection products and growth regulators**
- **Plant protection in viticulture, orchard and specialty crops**
- **Backpack sprayer**
- **Greenhouse**

**Technical data:**

- **Nozzle sizes**
  005–05
- **Spray angles**
  60°, 80°
- **Material**
  Ceramic
- **Pressure ranges**
  - TR 80: 3–**8**–**20** bar
  - TR 60: 2–**8**–**20** bar
- **Recommended strainers**
  - 60 M 005–04
  - 25 M 05
- **Droplet sizes**
  Fine – very fine
- **Union nut**
  Ø 11.9 mm

| | | | [l/min] | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 | 19.0 | 20.0 |
| | TR 60-005 80-005 | 60 M | 0.16 | 0.20 | 0.23 | 0.25 | 0.28 | 0.30 | 0.32 | 0.34 | 0.36 | 0.38 | 0.39 | 0.41 | 0.42 | 0.44 | 0.45 | 0.47 | 0.49 | 0.51 |
| | TR 60-0067 80-0067 | 60 M | 0.22 | 0.27 | 0.31 | 0.35 | 0.38 | 0.41 | 0.44 | 0.47 | 0.49 | 0.52 | 0.54 | 0.56 | 0.58 | 0.60 | 0.62 | 0.64 | 0.68 | 0.70 |
| | TR 60-01 80-01 | 60 M | 0.32 | 0.39 | 0.45 | 0.51 | 0.55 | 0.60 | 0.64 | 0.68 | 0.72 | 0.75 | 0.78 | 0.82 | 0.85 | 0.88 | 0.91 | 0.93 | 0.99 | 1.01 |
| | TR 60-015 80-015 | 60 M | 0.48 | 0.59 | 0.68 | 0.76 | 0.83 | 0.90 | 0.96 | 1.02 | 1.07 | 1.13 | 1.18 | 1.22 | 1.27 | 1.31 | 1.36 | 1.40 | 1.48 | 1.52 |
| | TR 60-02 80-02 | 60 M | 0.65 | 0.80 | 0.92 | 1.03 | 1.13 | 1.22 | 1.30 | 1.38 | 1.45 | 1.53 | 1.60 | 1.67 | 1.73 | 1.79 | 1.85 | 1.90 | 2.01 | 2.07 |
| NEW | TR 60-025 | 60 M | 0.81 | 0.99 | 1.15 | 1.28 | 1.40 | 1.52 | 1.62 | 1.71 | 1.81 | 1.90 | 1.98 | 2.06 | 2.14 | 2.21 | 2.29 | 2.36 | 2.49 | 2.56 |
| | TR 60-03 80-03 | 60 M | 0.97 | 1.19 | 1.37 | 1.53 | 1.68 | 1.81 | 1.94 | 2.06 | 2.17 | 2.28 | 2.38 | 2.48 | 2.57 | 2.66 | 2.75 | 2.83 | 2.99 | 3.07 |
| | TR 60-04 80-04 | 60 M | 1.29 | 1.58 | 1.82 | 2.04 | 2.23 | 2.41 | 2.58 | 2.74 | 2.88 | 3.03 | 3.16 | 3.29 | 3.41 | 3.53 | 3.65 | 3.76 | 3.98 | 4.08 |
| | TR 60-05 80-05 | 25 M | 1.61 | 1.97 | 2.28 | 2.55 | 2.79 | 3.01 | 3.22 | 3.42 | 3.60 | 3.77 | 3.94 | 4.10 | 4.26 | 4.41 | 4.55 | 4.69 | 4.96 | 5.09 |

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to water
- Verify the table values by gauging the flow rates prior to every spraying season
- Pay attention to uniform nozzle adjustment

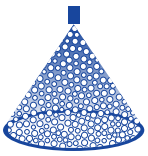
**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

**Note**
TR 60 with 5 mm collar does not require a gasket for installation with/without cup strainer.

| Ordering example: | Series | + | Spray angle | + | Nozzle size | + | Material | + | Collar height | = | Order No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | TR | + | 80° | + | 005 | + | C (Ceramic) | + | 2 mm | = | TR 80-005 C 2 mm |
| | TR | + | 60° | + | 005 | + | C (Ceramic) | + | 2 mm | = | TR 60-005 C 2 mm |
| | TR | + | 60° | + | 005 | + | C (Ceramic) | + | 5 mm | = | TR 60-005 C 5 mm |

# Air-injector hollow cone nozzles
# ITR 80



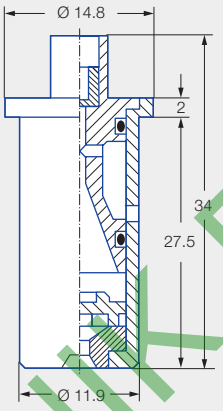
**Crop production** | Ground care

Dimensions in mm.

- Air-aspirating hollow cone nozzle
- Extremely low drift over the entire pressure range

## Advantages

- 95/90/75/50 % drift reduction – ITR 80-01 C
- Exceptionally low-drift design
- Resistant to clogging due to round hole bore
- ISO color-coded
- Suitable for PWM

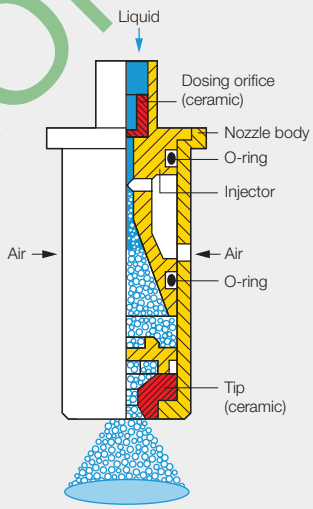

**JKI approval as loss-reducing: 95/90/75/50 %**

G 2023

**Current list at: www.lechler.com/de-en/service/loss-reducing**

**Series ITR 80**

**Injector can be removed without tools**




**Application:**

**Plant protection products and growth regulators**

**Plant protection in viticulture, orchard and specialty crops**

**Technical data:**

**Nozzle sizes**
01–02

**Spray angle**
80°

**Material**
Ceramic

**Pressure ranges**
3–**10**–**30** bar

**Recommended strainers**
60 M 01–02

**Droplet sizes**
Extremely coarse – medium

**Union nut**
Ø 11.9 mm

| | | [l/min] | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3.0 | 4.0 | 5.0 | 6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 | 19.0 | 20.0 |
| ITR 80-01 | 60 M | 0.39 | 0.45 | 0.51 | 0.55 | 0.60 | 0.64 | 0.68 | 0.72 | 0.75 | 0.78 | 0.82 | 0.85 | 0.88 | 0.91 | 0.93 | 0.99 | 1.01 |
| ITR 80-015 | 60 M | 0.59 | 0.68 | 0.76 | 0.83 | 0.90 | 0.96 | 1.02 | 1.07 | 1.13 | 1.18 | 1.22 | 1.27 | 1.31 | 1.36 | 1.40 | 1.48 | 1.52 |
| ITR 80-02 | 60 M | 0.80 | 0.92 | 1.03 | 1.13 | 1.22 | 1.30 | 1.38 | 1.45 | 1.53 | 1.60 | 1.67 | 1.73 | 1.79 | 1.85 | 1.90 | 2.01 | 2.07 |

- The stated l/ha values apply to water
- Check the nozzles by gauging the flow rates prior to every spraying season
- Pressure measured at the nozzle

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

## Good to know

You can find detailed information in our brochure “Viticulture, orchard and specialty crops” and at **www.lechler-agri.com**

| Ordering example: | Series | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|
| | ITR 80 | + | 02 | + | C (Ceramic) | = | ITR 80-02 C |

NEW

# Liquid fertilizer nozzle
# VR

Crop production | Ground care

PATENTED

Dimensions in mm.

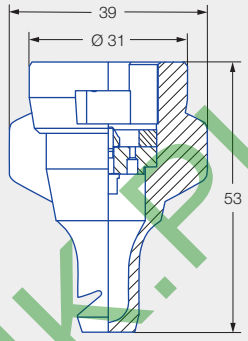
- Liquid fertilizer nozzle with variable flow rate
- Based on FD design with extremely uniform lateral distribution

## Advantages

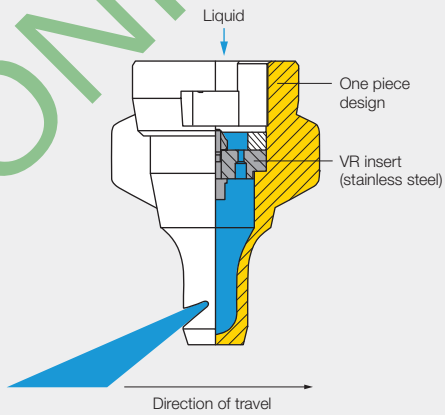
- Variable flow rate covers up to five ISO FD nozzle sizes
- Higher workrate without changing nozzles
- Flexible delivery with changing spraying speeds and in precise farming applications
- Gentle liquid fertilizer application thanks to extremely low spray impact
- Minimum risk of scorching due to ultra-coarse droplet spectrum
- Nozzle in cap with MULTIJET bayonet system incl. gasket and nozzle strainer 80 M

VR-M

VR-L




Series VR




Removable insert

**Application:**

- **Liquid fertilizer delivery** (AHL, UAN)
- **Golf course**

**Technical data:**

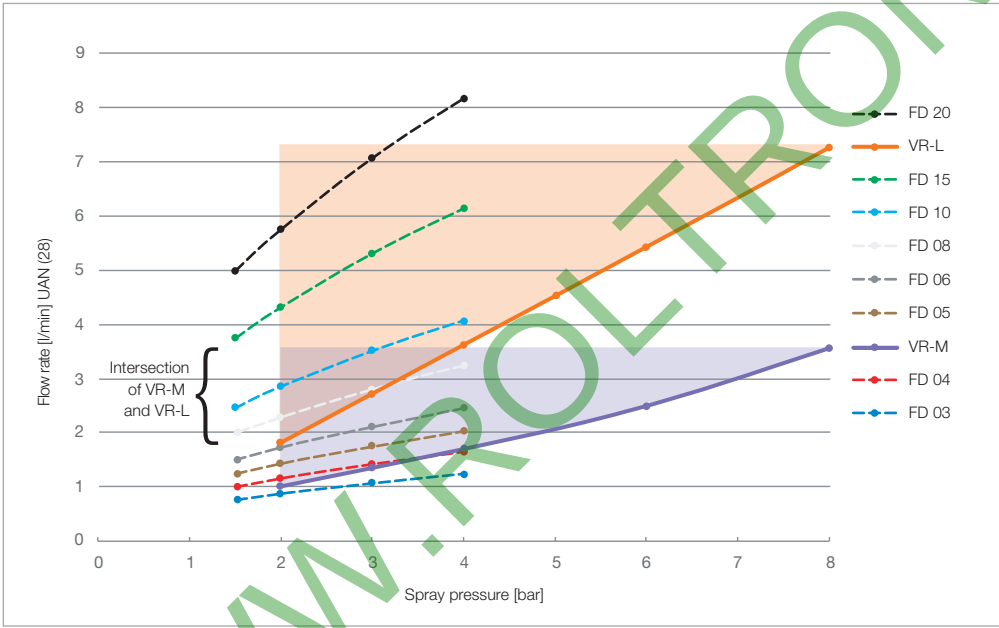
- **Nozzle sizes** (ISO): VR-M and VR-L
- **Spray angle**: 130°
- **Materials**: POM, stainless steel
- **Pressure ranges**: 2–8 bar
- **Recommended strainer**: 80 M
- **Droplet size**: Ultra coarse
- **Spray heights**: 50–70 cm

## Assembly

**Note**

The Lechler VR assembly aid facilitates aligned installation of the VR stainless steel insert including gasket.
Order number of VR assembly tool: **6VR.000.56.10.00.0**
(can be optionally ordered)

| | | [l/min] | UAN [l/ha] (0.5 m) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | UAN 28 | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h |
| VR-M | 2.0 | 1.03 | 247 | 206 | 177 | 154 | 124 | 103 | 88 | 77 | 69 |
| | 3.0 | 1.37 | 329 | 275 | 235 | 206 | 165 | 137 | 118 | 103 | 92 |
| | 4.0 | 1.71 | 410 | 341 | 293 | 256 | 205 | 171 | 146 | 128 | 114 |
| | 5.0 | 2.07 | 496 | 414 | 355 | 310 | 248 | 207 | 177 | 155 | 138 |
| | 6.0 | 2.50 | 600 | 500 | 428 | 375 | 300 | 250 | 214 | 187 | 167 |
| | 7.0 | 2.92 | 701 | 584 | 501 | 438 | 351 | 292 | 250 | 219 | 195 |
| | 8.0 | 3.57 | 857 | 715 | 612 | 536 | 429 | 357 | 306 | 268 | 238 |
| VR-L | 2.0 | 1.83 | 439 | 366 | 314 | 275 | 220 | 183 | 157 | 137 | 122 |
| | 3.0 | 2.71 | 650 | 542 | 465 | 407 | 325 | 271 | 232 | 203 | 181 |
| | 4.0 | 3.64 | 874 | 729 | 625 | 546 | 437 | 364 | 312 | 273 | 243 |
| | 5.0 | 4.52 | 1,086 | 905 | 775 | 678 | 543 | 452 | 388 | 339 | 302 |
| | 6.0 | 5.43 | 1,303 | 1,086 | 931 | 814 | 652 | 543 | 465 | 407 | 362 |
| | 7.0 | 6.40 | 1,535 | 1,280 | 1,097 | 960 | 768 | 640 | 548 | 480 | 427 |
| | 8.0 | 7.29 | 1,749 | 1,457 | 1,249 | 1,093 | 874 | 729 | 625 | 546 | 486 |




- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to UAN (28/1.28 kg/l)
- Verify the table values by gauging the flow rates prior to every spraying season
- Ensure uniform nozzle adjustment

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

**Recommendation**
Use in flow-controlled boom sprayers.

| Ordering example: | Series | + | Nozzle size | = | Order No. |
|---|---|---|---|---|---|
| | VR | + | M | = | VR-M |

# Liquid fertilizer nozzles
## FD

Crop production | Ground care

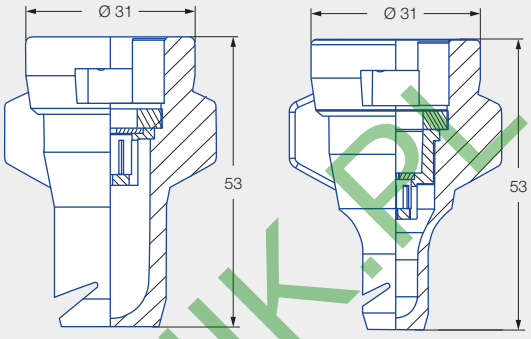
PATENTED

Dimensions in mm.

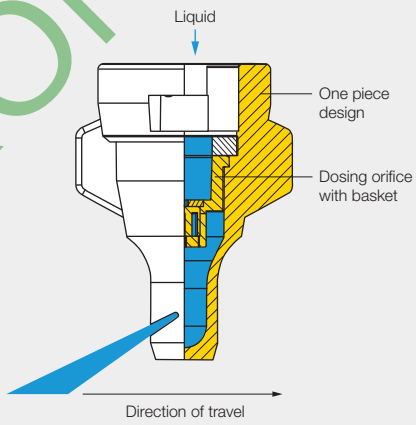
- Flat spray nozzle with horizontal spray pattern for uniform cross distribution

### Advantages

- Gentle liquid fertilizer application thanks to extremely low spray impact
- Minimum risk of scorching due to extremely coarse droplet application
- No striping due to optimum cross distribution
- Nozzle in cap for standard bayonet connection system MULTIJET (incl. gasket)




**Series FD**




**Pre-chamber can be removed without tools**

**Application:**

**Liquid fertilizer delivery** | **Greenhouse** | **Golf course**

**Technical data:**

**Nozzle sizes**
02–20

**Spray angle**
130°

**Material**
POM

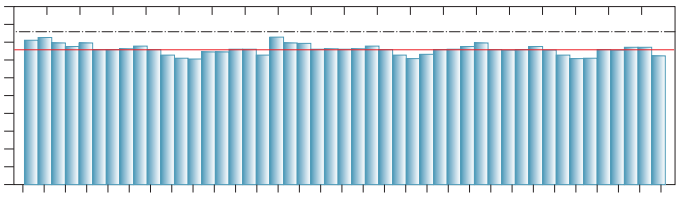
**Pressure ranges**
**1.5–4** bar

**Recommended strainers**
- 60 M 02–04
- 25 M 05–20

**Droplet size**
Ultra coarse

**Spray heights**
50–70 cm

### FD 04 – Cross distribution on patternator (with water)



Pressure range: 2.0 bar
Spray height: 600 mm
Coefficient of variation: 3.4 %

## Good to know

You can find detailed information in our brochure “Application of liquid fertilizer” and at **www.lechler-agri.com**

| | | [l/min] | | UAN [l/ha] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Water | UAN | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h |
| FD 02 (60 M) | 1.5 | 0.57 | 0.50 | 121 | 101 | 86 | 76 | 60 | 50 | 43 | 38 | 34 |
| | 2.0 | 0.65 | 0.57 | 138 | 115 | 98 | 86 | 69 | 57 | 49 | 43 | 38 |
| | 3.0 | 0.80 | 0.71 | 170 | 141 | 121 | 106 | 85 | 71 | 61 | 53 | 47 |
| | 4.0 | 0.92 | 0.81 | 195 | 163 | 139 | 122 | 98 | 81 | 70 | 61 | 54 |
| FD 03 (60 M) | 1.5 | 0.85 | 0.75 | 180 | 150 | 129 | 113 | 90 | 75 | 64 | 56 | 50 |
| | 2.0 | 0.98 | 0.87 | 208 | 173 | 148 | 130 | 104 | 87 | 74 | 65 | 58 |
| | 3.0 | 1.20 | 1.06 | 255 | 212 | 182 | 159 | 127 | 106 | 91 | 80 | 71 |
| | 4.0 | 1.39 | 1.23 | 295 | 246 | 211 | 184 | 147 | 123 | 105 | 92 | 82 |
| FD 04 (60 M) | 1.5 | 1.13 | 1.00 | 240 | 200 | 171 | 150 | 120 | 100 | 86 | 75 | 67 |
| | 2.0 | 1.31 | 1.16 | 278 | 232 | 198 | 174 | 139 | 116 | 99 | 87 | 77 |
| | 3.0 | 1.60 | 1.41 | 339 | 283 | 242 | 212 | 170 | 141 | 121 | 106 | 94 |
| | 4.0 | 1.85 | 1.64 | 392 | 327 | 280 | 245 | 196 | 164 | 140 | 123 | 109 |
| FD 05 (25 M) | 1.5 | 1.41 | 1.25 | 299 | 249 | 214 | 187 | 149 | 125 | 107 | 93 | 83 |
| | 2.0 | 1.63 | 1.44 | 346 | 288 | 247 | 216 | 173 | 144 | 123 | 108 | 96 |
| | 3.0 | 2.00 | 1.77 | 424 | 354 | 303 | 265 | 212 | 177 | 152 | 133 | 118 |
| | 4.0 | 2.31 | 2.04 | 490 | 408 | 350 | 306 | 245 | 204 | 175 | 153 | 136 |
| FD 06 (25 M) | 1.5 | 1.70 | 1.50 | 361 | 301 | 258 | 225 | 180 | 150 | 129 | 113 | 100 |
| | 2.0 | 1.96 | 1.73 | 416 | 346 | 297 | 260 | 208 | 173 | 148 | 130 | 115 |
| | 3.0 | 2.40 | 2.12 | 509 | 424 | 364 | 318 | 255 | 212 | 182 | 159 | 141 |
| | 4.0 | 2.77 | 2.45 | 588 | 490 | 420 | 367 | 294 | 245 | 210 | 184 | 163 |
| FD 08 (25 M) | 1.5 | 2.26 | 2.00 | 479 | 400 | 342 | 300 | 240 | 200 | 171 | 150 | 133 |
| | 2.0 | 2.61 | 2.31 | 554 | 461 | 395 | 346 | 277 | 231 | 198 | 173 | 154 |
| | 3.0 | 3.20 | 2.83 | 679 | 566 | 485 | 424 | 339 | 283 | 242 | 212 | 189 |
| | 4.0 | 3.70 | 3.27 | 785 | 654 | 561 | 491 | 392 | 327 | 280 | 245 | 218 |
| FD 10 (25 M) | 1.5 | 2.83 | 2.50 | 600 | 500 | 429 | 375 | 300 | 250 | 214 | 188 | 167 |
| | 2.0 | 3.27 | 2.89 | 694 | 578 | 495 | 434 | 347 | 289 | 248 | 217 | 193 |
| | 3.0 | 4.00 | 3.54 | 849 | 707 | 606 | 530 | 424 | 354 | 303 | 265 | 236 |
| | 4.0 | 4.62 | 4.08 | 980 | 817 | 700 | 613 | 490 | 408 | 350 | 306 | 272 |
| FD 15 (25 M) | 1.5 | 4.24 | 3.75 | 899 | 750 | 642 | 562 | 450 | 375 | 321 | 281 | 250 |
| | 2.0 | 4.90 | 4.33 | 1,039 | 866 | 742 | 650 | 520 | 433 | 371 | 325 | 289 |
| | 3.0 | 6.00 | 5.30 | 1,273 | 1,061 | 909 | 795 | 636 | 530 | 455 | 398 | 354 |
| | 4.0 | 6.93 | 6.13 | 1,470 | 1,225 | 1,050 | 919 | 735 | 613 | 525 | 459 | 408 |
| FD 20 (25 M) | 1.5 | 5.66 | 5.00 | 1,201 | 1,001 | 858 | 750 | 600 | 500 | 429 | 375 | 334 |
| | 2.0 | 6.53 | 5.77 | 1,385 | 1,154 | 989 | 866 | 693 | 577 | 495 | 433 | 385 |
| | 3.0 | 8.00 | 7.07 | 1,697 | 1,414 | 1,212 | 1,061 | 849 | 707 | 606 | 530 | 471 |
| | 4.0 | 9.24 | 8.17 | 1,960 | 1,633 | 1,400 | 1,225 | 980 | 817 | 700 | 613 | 544 |

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to UAN (28/1.28 kg/l)
- Verify the table values by gauging the flow rates prior to every spraying season
- Ensure uniform nozzle adjustment

| Ordering example: | Series | + Nozzle size | + Material | = Order No. |
|---|---|---|---|---|
| | FD | + 06 | + (POM) | = FD 06 |

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

## Intermediate and extension adapters

**Intermediate adapter[1]**

Lechler TWISTLOC system
**092.163.56.00.22.1**
Extension: 22 mm

Rau system
**092.163.56.00.21.0**
Extension: 20 mm

Hardi system
**092.163.56.00.20.1**
Extension: 17 mm

**Extension adapter and bayonet nipple[1]**

MULTIJET system
**092.163.56.00.23.1**
Extension: 32 mm

MULTIJET bayonet nipple
**092.163.56.00.26.0**
(see Page 133)

[1] Including gasket.

NEW

# Liquid fertilizer border nozzle FB

Crop production | Ground care

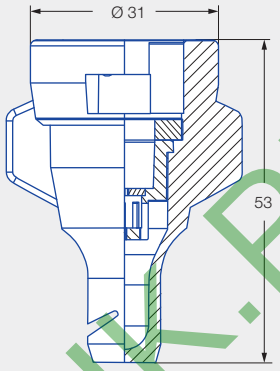
Dimensions in mm.

- Border nozzle compatible with FD series
- For right boom side

## Advantages

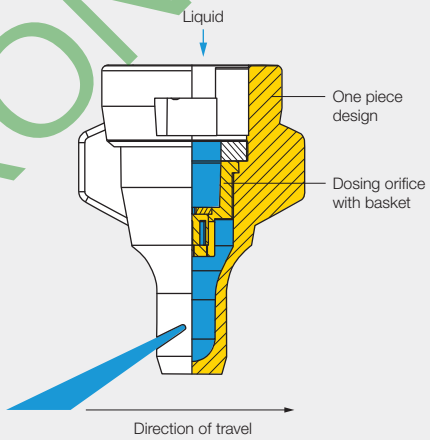
- 100 % uniform cross distribution up to the field edge:
  - Prevents hunger stripes (often seen with fertilizer spreaders)
  - No yield and quality drop at the field edge
  - Economical and environmentally friendly application of liquid fertilizers to the field edge without over/under dosing and losses
  - Compliance with the German Fertilizer Regulation
- No overspraying of the field boundary
- Corresponding FB border nozzle in same ISO color as FD nozzle

FB 100-03




Series FB

Pre-chamber can be removed without tools



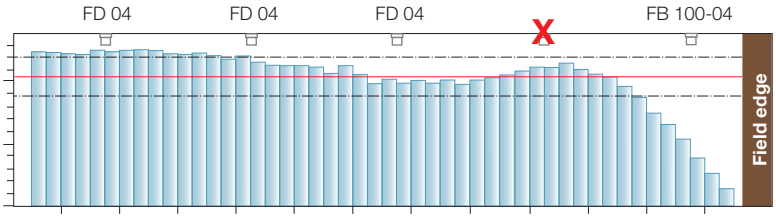

**Application:**

- Border nozzle
- Liquid fertilizer delivery (AHL, UAN)
- Greenhouse
- Golf course

**Technical data:**

- **Nozzle sizes** 02–08
- **Spray angle** 100°
- **Material** POM
- **Pressure ranges** 1.5–4 bar
- **Recommended strainers**
  - 60 M 02–04
  - 25 M 05–08
- **Droplet size** Ultra coarse
- **Spray heights** 50–70 cm

## FD 04 – Cross distribution with border nozzle FB 100-04 on patternator (with water)




Pressure range: 3 bar
Spray height: 500 mm

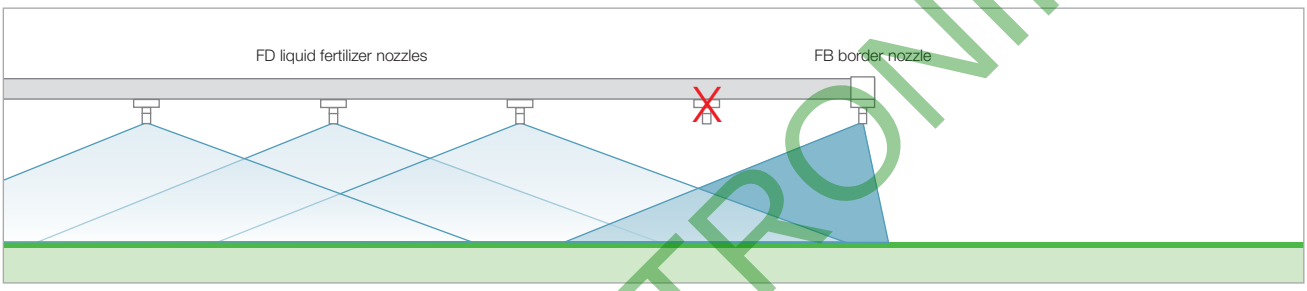
## Electric border nozzle kit

- Retrofittable, compact 3-way valve with integrated nozzle holders
- Can be electrically controlled from the driver's seat
- Ideally suited for FB nozzles in combination with FD nozzles or IS nozzles in combination with ID nozzles

### Advantages

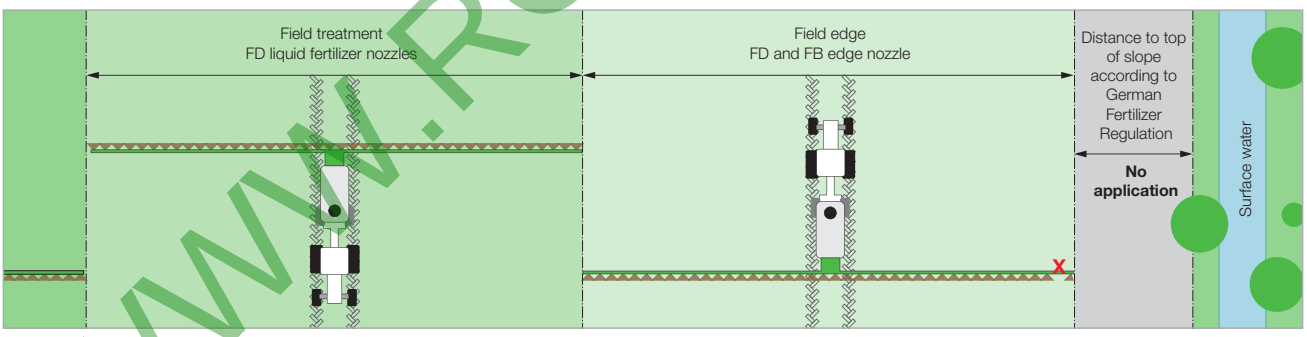
- Switchover without dismounting
- Fast switching in less than 1 second
- Minimum energy requirement, no power consumption during spraying
- All parts made of liquid fertilizer-resistant plastic or stainless steel

**Order No. 065.290.00.00**




The spray range of the FB border nozzle is matched to FD nozzles.

**Note**
When treating the field edge, the FD nozzle in position 2 must be deactivated in order to avoid overspraying.




FB nozzles permit precise liquid fertilizer application up to the boundary of protected zones.

Pressure range: 3 bar
Spray height: 500 mm

### Good to know

You can find detailed information in our assembly instruction "Electric Border Valve Kit" and at **www.lechler.com/de-en/support**

| Ordering example: | Series | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|
| | FB | + | 02 | + | (POM) | = | FB 02 |

# Liquid fertilizer nozzles
## FS

**Crop production** | Ground care

PATENT PENDING

- Orifice nozzle with vertical spray pattern
- Use on all boom times

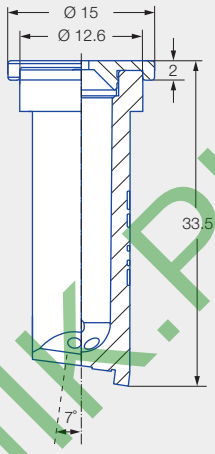
### Advantages

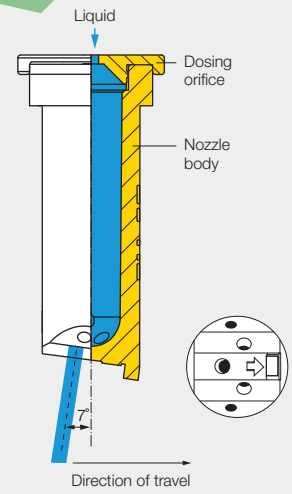
- 7° backward spray inclination reduces the jet force and ensures gentle application
- Optimized bore arrangement for enhanced cross distribution – patent pending
- Nozzle sizes FS 06 to FS 15 with oval bores for gentle fertilizer jets – gentle application of large amounts
- Dosing orifice can be removed without tools for cleaning


**Series FS**


**Orifice can be removed without tools**

Dimensions in mm.




**Application:**

**Liquid fertilizer delivery**

**Technical data:**

**Nozzle sizes**
015–15

**Spray angle**
100°

**Material**
POM

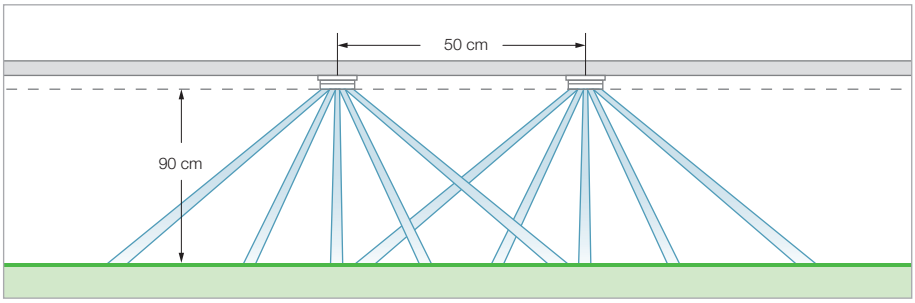
**Pressure ranges**
- FS 015 to -08: 1–4 bar
- FS 10 and 15: 1–3 bar

**Recommended strainer**
25 M

**Droplet size**
Ultra coarse

**Width across flats**
10 mm

**Spray heights**
80–**90**–100 cm



| | | [l/min] | | UAN [l/ha] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Water | UAN | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h |
| FS 015 (25 M) | 1.0 | 0.34 | 0.30 | 72 | 60 | 51 | 45 | 36 | 30 | 26 | 23 | 20 |
| | 1.5 | 0.42 | 0.37 | 89 | 74 | 63 | 55 | 44 | 37 | 32 | 28 | 25 |
| | 2.0 | 0.48 | 0.42 | 101 | 84 | 72 | 63 | 51 | 42 | 36 | 32 | 28 |
| | 2.5 | 0.54 | 0.48 | 114 | 95 | 81 | 71 | 57 | 48 | 41 | 35 | 32 |
| | 3.0 | 0.59 | 0.52 | 125 | 104 | 89 | 78 | 62 | 52 | 45 | 39 | 35 |
| | 4.0 | 0.68 | 0.60 | 144 | 120 | 103 | 90 | 72 | 60 | 51 | 45 | 40 |
| FS 02 (25 M) | 1.0 | 0.46 | 0.40 | 97 | 81 | 69 | 61 | 49 | 40 | 35 | 45 | 27 |
| | 1.5 | 0.57 | 0.50 | 120 | 100 | 86 | 75 | 60 | 50 | 43 | 56 | 33 |
| | 2.0 | 0.65 | 0.57 | 137 | 114 | 98 | 86 | 69 | 57 | 49 | 65 | 38 |
| | 2.5 | 0.73 | 0.64 | 154 | 128 | 110 | 96 | 77 | 64 | 55 | 72 | 43 |
| | 3.0 | 0.80 | 0.70 | 169 | 141 | 121 | 106 | 84 | 70 | 60 | 53 | 47 |
| | 4.0 | 0.92 | 0.81 | 194 | 162 | 139 | 121 | 97 | 81 | 69 | 91 | 54 |
| FS 03 (25 M) | 1.0 | 0.69 | 0.61 | 146 | 121 | 104 | 91 | 73 | 61 | 52 | 45 | 40 |
| | 1.5 | 0.84 | 0.74 | 177 | 148 | 127 | 111 | 89 | 74 | 63 | 56 | 49 |
| | 2.0 | 0.97 | 0.85 | 205 | 171 | 146 | 128 | 102 | 85 | 73 | 65 | 57 |
| | 2.5 | 1.09 | 0.96 | 230 | 192 | 164 | 144 | 115 | 96 | 82 | 72 | 64 |
| | 3.0 | 1.19 | 1.05 | 251 | 209 | 180 | 157 | 126 | 105 | 90 | 79 | 70 |
| | 4.0 | 1.37 | 1.21 | 289 | 241 | 207 | 181 | 145 | 121 | 103 | 91 | 80 |
| FS 04 (25 M) | 1.0 | 0.91 | 0.80 | 192 | 160 | 137 | 120 | 96 | 80 | 69 | 60 | 53 |
| | 1.5 | 1.12 | 0.99 | 237 | 197 | 169 | 148 | 118 | 99 | 84 | 74 | 66 |
| | 2.0 | 1.29 | 1.14 | 272 | 227 | 195 | 170 | 136 | 114 | 97 | 86 | 76 |
| | 2.5 | 1.44 | 1.27 | 304 | 253 | 217 | 190 | 152 | 127 | 109 | 95 | 84 |
| | 3.0 | 1.58 | 1.39 | 334 | 278 | 238 | 209 | 167 | 139 | 119 | 104 | 93 |
| | 4.0 | 1.82 | 1.60 | 384 | 320 | 275 | 240 | 192 | 160 | 137 | 121 | 107 |
| FS 05 (25 M) | 1.0 | 1.14 | 1.00 | 241 | 201 | 172 | 150 | 120 | 100 | 86 | 75 | 67 |
| | 1.5 | 1.39 | 1.22 | 294 | 245 | 210 | 183 | 147 | 122 | 105 | 92 | 82 |
| | 2.0 | 1.61 | 1.42 | 340 | 283 | 243 | 213 | 170 | 142 | 121 | 107 | 94 |
| | 2.5 | 1.80 | 1.58 | 380 | 317 | 272 | 238 | 190 | 158 | 136 | 119 | 106 |
| | 3.0 | 1.97 | 1.73 | 416 | 347 | 297 | 260 | 208 | 173 | 149 | 130 | 116 |
| | 4.0 | 2.27 | 2.00 | 479 | 400 | 342 | 300 | 240 | 200 | 171 | 150 | 133 |
| FS 06 (25 M) | 1.0 | 1.36 | 1.20 | 287 | 239 | 205 | 180 | 144 | 120 | 103 | 90 | 80 |
| | 1.5 | 1.67 | 1.47 | 353 | 294 | 252 | 220 | 176 | 147 | 126 | 110 | 98 |
| | 2.0 | 1.93 | 1.70 | 408 | 340 | 291 | 255 | 204 | 170 | 146 | 128 | 113 |
| | 2.5 | 2.15 | 1.89 | 454 | 378 | 324 | 284 | 227 | 189 | 162 | 143 | 126 |
| | 3.0 | 2.36 | 2.08 | 498 | 415 | 356 | 312 | 249 | 208 | 178 | 156 | 138 |
| | 4.0 | 2.73 | 2.40 | 577 | 480 | 412 | 360 | 288 | 240 | 206 | 180 | 160 |
| FS 08 (25 M) | 1.0 | 1.82 | 1.60 | 384 | 320 | 275 | 240 | 192 | 160 | 137 | 121 | 107 |
| | 1.5 | 2.23 | 1.96 | 471 | 392 | 336 | 294 | 235 | 196 | 168 | 148 | 131 |
| | 2.0 | 2.58 | 2.27 | 545 | 454 | 389 | 341 | 272 | 227 | 195 | 170 | 151 |
| | 2.5 | 2.88 | 2.53 | 608 | 507 | 434 | 380 | 304 | 253 | 217 | 191 | 169 |
| | 3.0 | 3.16 | 2.78 | 667 | 556 | 477 | 417 | 334 | 278 | 238 | 209 | 185 |
| | 4.0 | 3.65 | 3.21 | 771 | 642 | 551 | 482 | 385 | 321 | 275 | 241 | 214 |
| FS 10 (25 M) | 1.0 | 2.27 | 2.00 | 479 | 400 | 342 | 300 | 240 | 200 | 171 | 150 | 133 |
| | 1.5 | 2.79 | 2.46 | 589 | 491 | 421 | 368 | 295 | 246 | 210 | 184 | 164 |
| | 2.0 | 3.22 | 2.83 | 680 | 567 | 486 | 425 | 340 | 283 | 243 | 212 | 189 |
| | 2.5 | 3.60 | 3.17 | 760 | 634 | 543 | 475 | 380 | 317 | 272 | 238 | 211 |
| | 3.0 | 3.94 | 3.47 | 832 | 693 | 594 | 520 | 416 | 347 | 297 | 260 | 231 |
| FS 15 (25 M) | 1.0 | 3.41 | 3.00 | 720 | 600 | 514 | 450 | 360 | 300 | 257 | 225 | 200 |
| | 1.5 | 4.18 | 3.68 | 883 | 736 | 631 | 552 | 441 | 368 | 315 | 276 | 245 |
| | 2.0 | 4.83 | 4.25 | 1,020 | 850 | 729 | 638 | 510 | 425 | 364 | 319 | 283 |
| | 2.5 | 5.40 | 4.75 | 1,140 | 950 | 815 | 713 | 570 | 475 | 407 | 356 | 317 |
| | 3.0 | 5.91 | 5.20 | 1,248 | 1,040 | 892 | 780 | 624 | 520 | 446 | 390 | 347 |

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to UAN (28/1.28 kg/l)
- Nozzle spacing 0.5 m
- Verify the table values by gauging the flow rates prior to every spraying season
- Ensure uniform nozzle adjustment

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

| Ordering example: | Series | + Nozzle size | + Material | = Order No. |
|---|---|---|---|---|
| | FS | + 04 | + (POM) | = FS 04 |

# 5-orifice nozzles
# FL

**Crop production** | **Ground care**

Dimensions in mm.

- Orifice nozzle with horizontal spray pattern

## Advantages

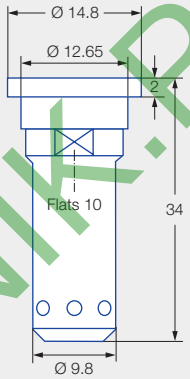
- Black, gray and stainless steel nozzle sizes can be combined with dosing orifices
- Change in delivery rate by changing the dosing orifice
- No leaf damage due to extremely coarse droplets
- Suitable for PWM


## Installation instruction

Inscription on dosing orifice must face upwards when inserted in the bayonet cap!

FL black

FL stainless steel




**Series FL**

**Application:**

**Liquid fertilizer delivery** (AHL, UAN)

**Dropleg**[UL]

**Technical data:**

**Bore diameter**
0.8–1.8 mm

**Spray angle**
160°

**Materials**
- Nozzle housing: POM, stainless steel
- Dosing orifice: Stainless steel

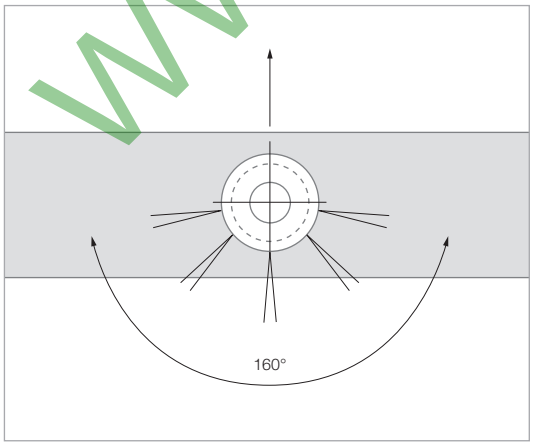
**Pressure ranges**
- Dosing orifice 0.8–1.0: **1–5** bar
- Dosing orifice 1.2: **1–4** bar
- Dosing orifice 1.5–1.8: **1–3** bar

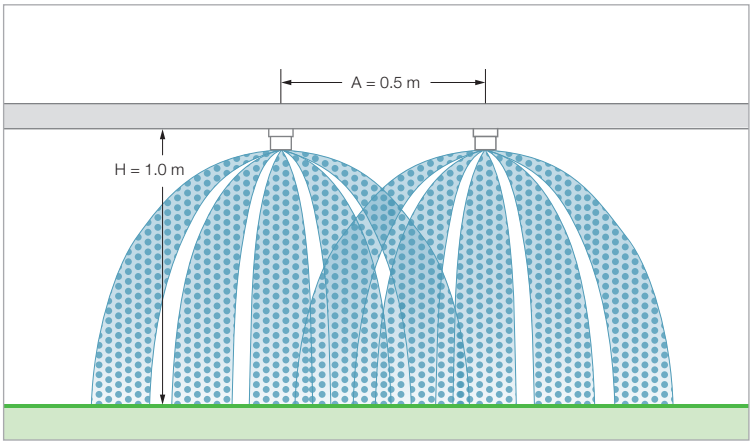
**Recommended strainer**
25 M

**Droplet size**
Ultra coarse

**Width across flats**
10 mm

**Spray height**
100 cm



## Good to know

You can find detailed information in our brochure “Application of liquid fertilizer” and at **www.lechler-agri.com**

| Ø [mm] | | [l/min] | | UAN [l/ha] 0.5m | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Water | UAN | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 9.0 km/h | 10.0 km/h | 11.0 km/h | 12.0 km/h | 14.0 km/h | 16.0 km/h | 18.0 km/h |
| 0.8/32 | 1.0 | 0.31 | 0.27 | 66 | 55 | 47 | 41 | 37 | 33 | 30 | 27 | 23 | 20 | 18 |
| | 2.0 | 0.43 | 0.38 | 91 | 76 | 65 | 57 | 51 | 46 | 41 | 38 | 33 | 29 | 25 |
| | 3.0 | 0.53 | 0.47 | 112 | 94 | 80 | 70 | 62 | 56 | 51 | 47 | 40 | 35 | 31 |
| | 4.0 | 0.61 | 0.54 | 129 | 108 | 92 | 81 | 72 | 65 | 59 | 54 | 46 | 40 | 36 |
| | 5.0 | 0.68 | 0.60 | 144 | 120 | 103 | 90 | 80 | 72 | 66 | 60 | 52 | 45 | 40 |
| 1.0/39 | 1.0 | 0.46 | 0.41 | 98 | 81 | 70 | 61 | 54 | 49 | 44 | 41 | 35 | 30 | 27 |
| | 2.0 | 0.65 | 0.57 | 138 | 115 | 98 | 86 | 77 | 69 | 63 | 57 | 49 | 43 | 38 |
| | 3.0 | 0.80 | 0.71 | 170 | 141 | 121 | 106 | 94 | 85 | 77 | 71 | 61 | 53 | 47 |
| | 4.0 | 0.92 | 0.81 | 195 | 163 | 139 | 122 | 108 | 98 | 89 | 81 | 70 | 61 | 54 |
| | 5.0 | 1.03 | 0.91 | 218 | 182 | 156 | 137 | 121 | 109 | 99 | 91 | 78 | 68 | 61 |
| 1.2/48 | 1.0 | 0.67 | 0.59 | 142 | 118 | 102 | 89 | 79 | 71 | 65 | 59 | 51 | 44 | 39 |
| | 2.0 | 0.95 | 0.84 | 202 | 168 | 144 | 126 | 112 | 101 | 92 | 84 | 72 | 63 | 56 |
| | 3.0 | 1.16 | 1.03 | 246 | 205 | 176 | 154 | 137 | 123 | 112 | 103 | 88 | 77 | 68 |
| | 4.0 | 1.34 | 1.18 | 284 | 237 | 203 | 178 | 158 | 142 | 129 | 118 | 102 | 89 | 79 |
| 1.5/59 | 1.0 | 0.98 | 0.87 | 208 | 173 | 148 | 130 | 115 | 104 | 94 | 87 | 74 | 65 | 58 |
| | 2.0 | 1.38 | 1.22 | 293 | 244 | 209 | 183 | 163 | 146 | 133 | 122 | 105 | 91 | 81 |
| | 3.0 | 1.69 | 1.49 | 359 | 299 | 256 | 224 | 199 | 179 | 163 | 149 | 128 | 112 | 100 |
| 1.8/72 | 1.0 | 1.39 | 1.23 | 295 | 246 | 211 | 184 | 164 | 147 | 134 | 123 | 105 | 92 | 82 |
| | 2.0 | 1.96 | 1.73 | 416 | 346 | 297 | 260 | 231 | 208 | 189 | 173 | 148 | 130 | 115 |
| | 3.0 | 2.40 | 2.12 | 509 | 424 | 364 | 318 | 283 | 255 | 231 | 212 | 182 | 159 | 141 |

- Operating pressure at the dosing orifice (measured with diaphragm valve)
- Lateral nozzle spacing 0.5 m
- Verify the table values by gauging the flow rates prior to every spraying season
- Make sure that the same dosing orifices are fitted in the nozzles
- The stated liter-per-hectare rates apply to UAN (28/1.28 kg/l)

### Ordering

When ordering, please specify the order numbers of the nozzle and also the dosing orifice.

### Recommendation

Use only gray 5-orifice nozzles **(Order No. 500.179.56.01)** in combination with large dosing orifices (1.5 and 1.8 mm).

| Designation | Order No. |
|---|---|
| **5-orifice nozzles FL** (supplied without dosing orifices, please order separately) | |
| Stainless steel for all dosing orifice sizes | **500.179.16** |
| POM for dosing orifices with dia. 0.8/1.0/1.2 mm | **500.179.56.00** |
| POM for dosing orifices with dia. 1.2/1.5/1.8 mm | **500.179.56.01** |
| **Dosing orifices** | |
| 0.8 mm/32 stainless steel | **050.030.1C.00.00** |
| 1.0 mm/39 stainless steel | **050.030.1C.01.00** |
| 1.2 mm/48 stainless steel | **050.030.1C.03.00** |
| 1.5 mm/59 stainless steel | **050.030.1C.02.00** |
| 1.8 mm/72 stainless steel | **050.030.1C.04.00** |

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

# Hose drop system
# 5S und 5SL

## Crop production

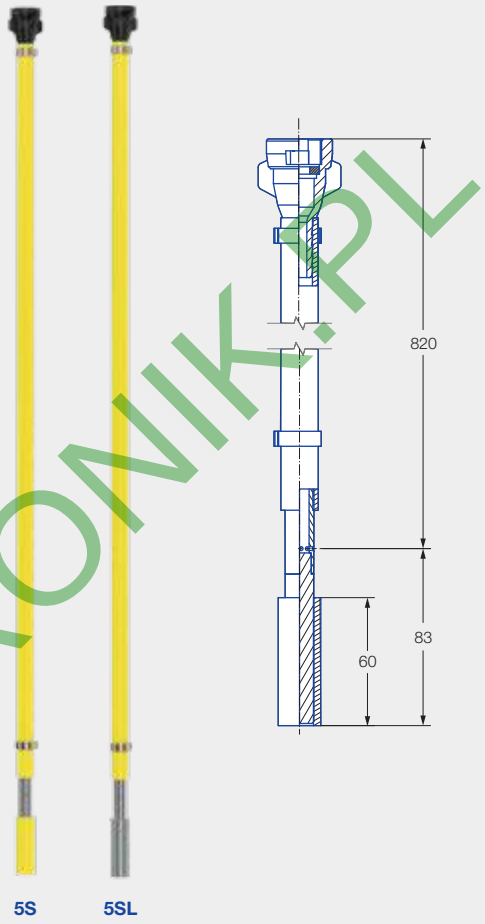
- Flexible hose drop system for late liquid fertilizer application

### Advantages

- No scorching because weight-loaded 5-orifice tip is submerged in crop
- 5-orifice tip distributes the liquid fertilizer uniformly in the crop with 0.5 m hose spacing
- Lower boom loading when pulling through the crop in comparison with 0.25 m hose drop system
- Compliance with transport width through ideal adaption of the hose when the boom is folded
- Extension as spacer with hose attachment prevents paint damage to the sprayer when folded in
- Including bayonet cap system MULTIJET (incl. gasket) as standard

**Series 5S/5SL**

Dimensions in mm.




**Application:**

**Liquid fertilizer delivery**
- 5S: 50–300 l/ha UAN
- 5SL: 180–550 l/ha UAN

**Technical data:**

**Hose spacing**
- 0.5 m cereal crops, rape seed
- 0.75 m corn

**ISO dosing orifice**
- 5S: 02 and 03
- 5SL: 04, 05 and 06

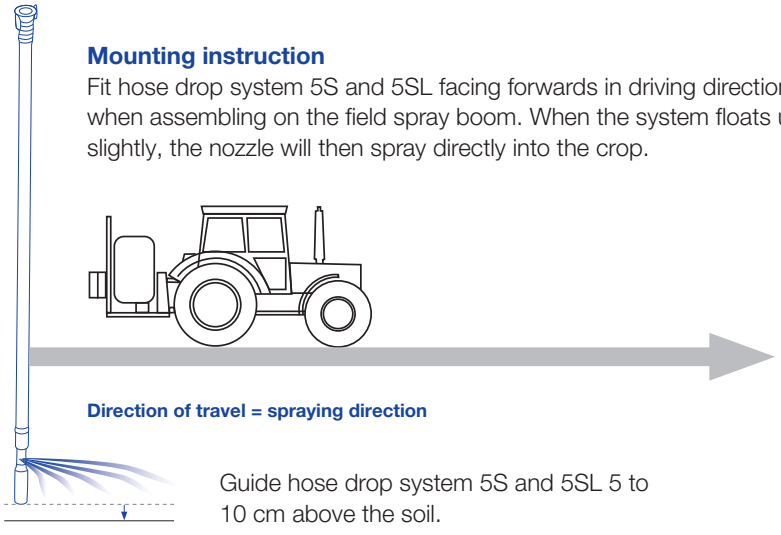
**Spray angle**
160°

**Pressure ranges**
**1–5** bar

## Assembly

### Mounting instruction

Fit hose drop system 5S and 5SL facing forwards in driving direction when assembling on the field spray boom. When the system floats up slightly, the nozzle will then spray directly into the crop.



**Direction of travel = spraying direction**

Guide hose drop system 5S and 5SL 5 to 10 cm above the soil.

## Good to know

You can find detailed information in our brochure “Application of liquid fertilizer” and at **www.lechler-agri.com**

| | Ø [mm] | | bar | [l/min] | | UAN (28) [l/ha] 0.5 m | | | | | UAN (28) [l/ha] 0.75 m | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Water | UAN (28) | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 10.0 km/h | 5.0 km/h | 6.0 km/h | 7.0 km/h | 8.0 km/h | 10.0 km/h |
| 5S | | 02 | 1.0 | 0.46 | 0.41 | 98 | 81 | 70 | 61 | 49 | 65 | 54 | 46 | 41 | 33 |
| | | | 2.0 | 0.65 | 0.57 | 138 | 115 | 98 | 86 | 69 | 92 | 77 | 66 | 57 | 46 |
| | | | 3.0 | 0.80 | 0.71 | 170 | 141 | 121 | 106 | 85 | 113 | 94 | 81 | 71 | 57 |
| | | | 4.0 | 0.92 | 0.81 | 195 | 163 | 139 | 122 | 98 | 130 | 108 | 93 | 81 | 65 |
| | | | 5.0 | 1.03 | 0.91 | 218 | 182 | 156 | 137 | 109 | 146 | 121 | 104 | 91 | 73 |
| | | 03 | 1.0 | 0.69 | 0.61 | 146 | 122 | 105 | 91 | 73 | 98 | 81 | 70 | 61 | 49 |
| | | | 2.0 | 0.97 | 0.86 | 206 | 171 | 147 | 129 | 103 | 137 | 114 | 98 | 86 | 69 |
| | | | 3.0 | 1.19 | 1.05 | 252 | 210 | 180 | 158 | 126 | 168 | 140 | 120 | 105 | 84 |
| | | | 4.0 | 1.37 | 1.21 | 291 | 242 | 208 | 182 | 145 | 194 | 161 | 138 | 121 | 97 |
| | | | 5.0 | 1.54 | 1.36 | 327 | 272 | 233 | 204 | 163 | 218 | 181 | 156 | 136 | 109 |
| 5SL | | 04 | 1.0 | 0.91 | 0.80 | 193 | 161 | 138 | 121 | 97 | 129 | 107 | 92 | 80 | 64 |
| | | | 2.0 | 1.29 | 1.14 | 274 | 228 | 195 | 171 | 137 | 182 | 152 | 130 | 114 | 91 |
| | | | 3.0 | 1.58 | 1.40 | 335 | 279 | 239 | 209 | 168 | 223 | 186 | 160 | 140 | 112 |
| | | | 4.0 | 1.82 | 1.61 | 386 | 322 | 276 | 241 | 193 | 257 | 214 | 184 | 161 | 129 |
| | | | 5.0 | 2.04 | 1.80 | 433 | 361 | 309 | 270 | 216 | 288 | 240 | 206 | 180 | 144 |
| | | 05 | 1.0 | 1.14 | 1.01 | 242 | 202 | 173 | 151 | 121 | 161 | 134 | 115 | 101 | 81 |
| | | | 2.0 | 1.61 | 1.42 | 342 | 285 | 244 | 213 | 171 | 228 | 190 | 163 | 142 | 114 |
| | | | 3.0 | 1.97 | 1.74 | 418 | 348 | 299 | 261 | 209 | 279 | 232 | 199 | 174 | 139 |
| | | | 4.0 | 2.27 | 2.01 | 482 | 401 | 344 | 301 | 241 | 321 | 268 | 229 | 201 | 161 |
| | | | 5.0 | 2.54 | 2.25 | 539 | 449 | 385 | 337 | 269 | 359 | 299 | 257 | 225 | 180 |
| | | 06 | 1.0 | 1.36 | 1.20 | 288 | 240 | 206 | 180 | 144 | 192 | 160 | 137 | 120 | 96 |
| | | | 2.0 | 1.93 | 1.71 | 409 | 341 | 292 | 256 | 205 | 273 | 227 | 195 | 171 | 136 |
| | | | 3.0 | 2.36 | 2.09 | 501 | 417 | 358 | 313 | 250 | 334 | 278 | 238 | 209 | 167 |
| | | | 4.0 | 2.73 | 2.41 | 579 | 483 | 414 | 362 | 290 | 386 | 322 | 276 | 241 | 193 |
| | | | 5.0 | 3.05 | 2.70 | 647 | 539 | 462 | 404 | 324 | 431 | 359 | 308 | 270 | 216 |

- Operating pressure at the dosing orifice (measured with diaphragm valve)
- Hose spacing 0.5/0.75 m
- Verify the table values by gauging the flow rates prior to every spraying season
- Make sure that the same dosing orifices are fitted in the hoses
- The stated liter-per-hectare rates apply to UAN (28/1.28 kg/l)

| Description | | Order No. |
|---|---|---|
| **Hose drop system 5S** | | **092.173.00** |
| Dosing orifices |  | |
| ISO 02 (formerly: 1.0/39)[1] | | **600.500.56.02.40.0** |
| ISO 03 (formerly: 1.2/48)[1] | | **600.500.56.03.40.0** |
| **Hose drop system 5SL** | | **092.173.00.01.00** |
| Dosing orifices |  | |
| ISO 04 (formerly: 1.5/59)[1] | | **600.500.56.04.40.0** |
| ISO 05 | | **600.500.56.05.40.0** |
| ISO 06 (formerly: 1.8/72)[1] | | **600.500.56.06.40.0** |

Liter per hectare rates as for FL nozzle (see Page 91).
[1] Stainless steel dosing orifice up to 2019.

**Recommendation**
Relocation kit for variable row adaptation.

**Order No.:**
**092.174.00.00.00.0**
(see Page 130).

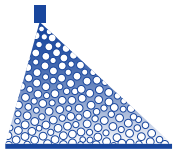
## Accessories

| Description | | Order No. |
|---|---|---|
| Securing clip |  | **092.164.56.00.10.0** |
| Extra-high 4 mm gasket |  | **095.015.6C.02.85.0** |
| Intermediate adapter for system Lechler TWISTLOC |  | **092.163.56.00.22.1** |
| Intermediate adapter for system Rau |  | **092.163.56.00.21.0** |
| Intermediate adapter for system Hardi |  | **092.163.56.00.20.1** |

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here:
**www.lechler.com/de-en/service/apps**

# Air injector
# IS 80



**Crop production** | **Ground care**

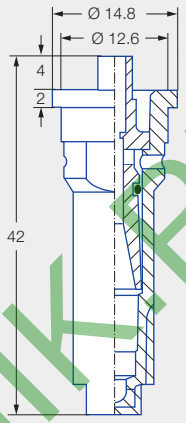
Dimensions in mm.

- Air-aspirating off center nozzle for border application and banding
- Extremely low-drift

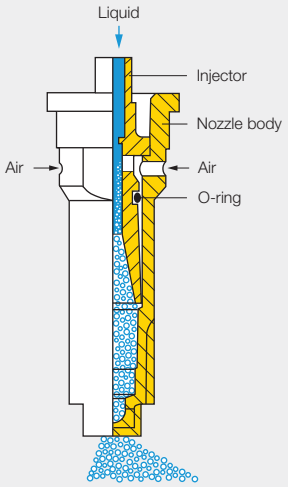
## Advantages

- 90 % drift reduction for band spraying with IS 80-03
- Same JKI drift reduction class in combination with ID/IDTA nozzles in the field spray boom
- Volume flow adapted for optimum cross distribution in combination with ID/IDTA nozzles of the same size
- Asymmetrical spray pattern (20°/60° to axis)
- Precise edge application along water courses and field boundaries
- Optimum protection of neighboring crops (field border application) or row/special cultures (herbicide underleaf spraying/banding)
- Suitable for PWM

**Series IS 80**




**Injector can be removed without tools**




**JKI approval as loss-reducing: 90/75/50 %**

G 1682, G 1753, G 1754, G 1755, G 1999, G 2000, G 2087

JKI approval with ID/IDTA nozzles of the same size.

**Current list at: www.lechler.com/de-en/service/loss-reducing**

### Application:

- **Border nozzle**
- **Band spraying in orchards and vineyards**
- **Vertical boom**
- **Spray frame**

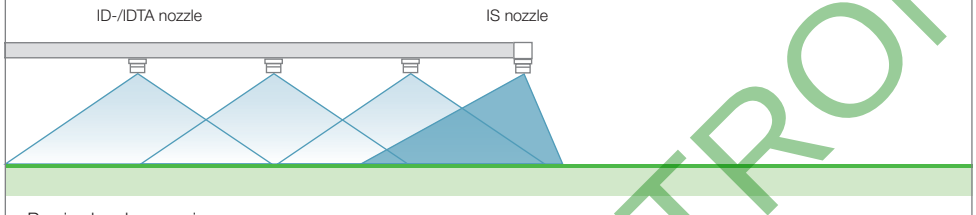
### Technical data:

- **Nozzle sizes**
  02–06
- **Spray angle**
  80°
- **Material**
  POM
- **Pressure ranges**
  - Field sprayer/ underleaf sprayer: 2–**4**–**8** bar
  - Vertical boom: 2–**8**–**15** bar
- **Recommended strainers**
  - 60 M 02–04
  - 25 M 05–06
- **Droplet sizes**
  Ultra coarse – medium
- **Width across flats**
  10 mm

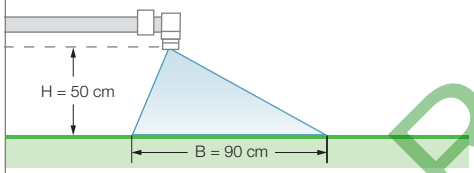
| | | | [l/min] | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 | 7.0 | 8.0 |
| | IS 80-02 | 60 M | 0.49 | 0.60 | 0.69 | 0.77 | 0.84 | 0.91 | 0.97 |
| | IS 80-025 | 60 M | 0.70 | 0.86 | 0.90 | 1.13 | 1.24 | 1.34 | 1.43 |
| | IS 80-03 | 60 M | 0.86 | 1.05 | 1.21 | 1.35 | 1.48 | 1.60 | 1.71 |
| | IS 80-04 | 60 M | 1.11 | 1.36 | 1.57 | 1.75 | 1.92 | 2.07 | 2.21 |
| | IS 80-05 | 25 M | 1.23 | 1.51 | 1.74 | 1.95 | 2.14 | 2.31 | 2.47 |
| | IS 80-06 | 25 M | 1.36 | 1.67 | 1.93 | 2.16 | 2.37 | 2.56 | 2.73 |

- The stated l/ha values apply to water
- Check the nozzles by gauging the flow rates prior to every spraying season
- Pressure measured at the nozzle

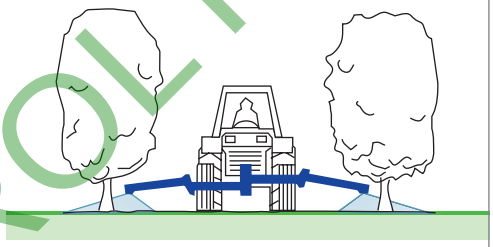
If necessary, please ask for additional information material on installation instructions for broadcast spraying A100 and banding in orchards and vineyards A200.



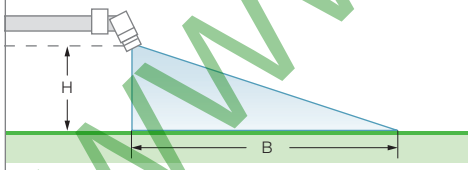

Precise border spraying




Spray dimensions



Band spraying in orchards and vineyards

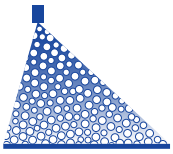



Accessories: swivel nozzle holders etc.
(see Page 128)

Underleaf spraying in row crops

| Ordering example: | Series | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|
| | IS 80 | + | 02 | + | (POM) | = | IS 80-02 |

# Compact air-injector off center spray nozzles IDKS 80



Crop production | Ground care

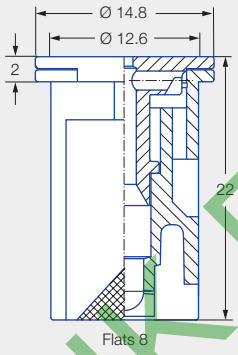
Dimensions in mm.

- Compact, air-aspirating off center nozzle for border application and banding
- Very low drift

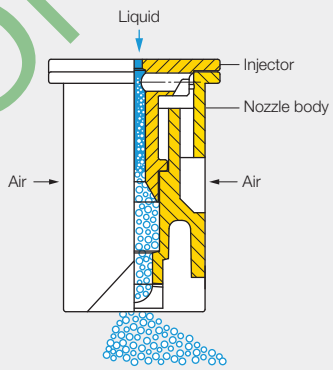
## Advantages

- 90 % drift reduction for band spraying with IDKS 80-025 to -06
- Same JKI drift reduction class in combination with IDK/IDKN/IDKT nozzles in the field spray boom
- Volume flow adapted for optimum cross distribution in combination with IDK/IDKN/IDKT nozzles of the same size
- Precise edge application along water courses and field boundaries
- Optimum protection of neighboring crops (field edge application) or row/special cultures (herbicide underleaf spraying/banding)
- Suitable for PWM

Series IDKS 80




Injector can be removed without tools




**JKI approval as loss-reducing: 90/75/50 %**

G 1786, G 1787, G 1788, G 1789, G 1998, G 2139, G 2140, G 2141, G 2142, G 2143

JKI approval with IDK/ IDKN/IDKT nozzles of the same size.

**Current list at: www.lechler.com/de-en/service/loss-reducing**

### Application:

- **Border nozzle**
- **Plant protection in viticulture, orchard and specialty crops**
- **Vertical boom**
- **Spray frame**
- **Backpack sprayer**
- **Greenhouse**

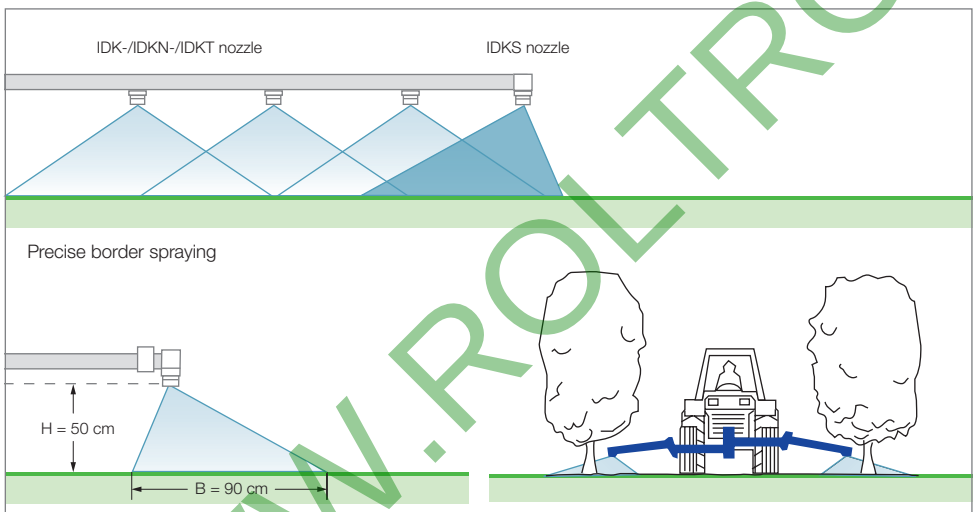
### Technical data:

- **Nozzle sizes** 015–06
- **Spray angle** 80°
- **Material** POM
- **Pressure ranges**
  - Field sprayer/ underleaf sprayer: 1–**1.5–3**–6 bar
  - Vertical boom: 1–**8–15** bar
- **Recommended strainers**
  - 60 M 015–04
  - 25 M 05–06
- **Droplet sizes** Ultra coarse – medium
- **Width across flats** 8 mm

| | | [l/min] | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 1.0 | 1.5 | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 |
| IDKS 80-015 | 60 M | – | 0.28 | 0.32 | 0.39 | 0.45 | 0.51 | 0.55 |
| IDKS 80-02 | 60 M | – | 0.42 | 0.48 | 0.59 | 0.68 | 0.76 | 0.83 |
| IDKS 80-025 | 60 M | – | 0.56 | 0.65 | 0.80 | 0.92 | 1.03 | 1.13 |
| IDKS 80-03 | 60 M | 0.57 | 0.70 | 0.81 | 0.99 | 1.15 | 1.28 | 1.40 |
| IDKS 80-04 | 60 M | 0.69 | 0.84 | 0.97 | 1.19 | 1.37 | 1.53 | 1.68 |
| IDKS 80-05 | 25 M | 0.91 | 1.12 | 1.29 | 1.58 | 1.82 | 2.04 | 2.23 |
| IDKS 80-06 | 25 M | 1.14 | 1.39 | 1.61 | 1.97 | 2.28 | 2.55 | 2.79 |

- The stated l/ha values apply to water
- Check the nozzles by gauging the flow rates prior to every spraying season
- Pressure measured at the nozzle

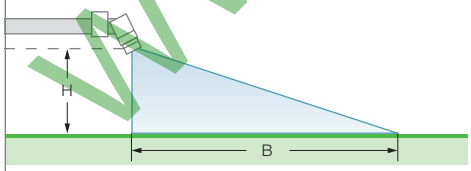
If necessary, please ask for additional information material on installation instructions for broadcast spraying A100 and banding in orchards and vineyards A200.




Spray dimensions



Band spraying in orchards and vineyards




Accessories: swivel nozzle holders etc. (see Page 128)

Underleaf spraying in row crops

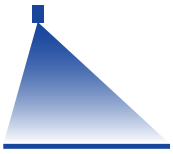
**Recommendation**
Optimum protection of IDKS nozzles thanks to long design of MultiCap (see Page 124).

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here:
**www.lechler.com/de-en/service/apps**

| Ordering example: | Series | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|
| | IDKS 80 | + | 02 | + | (POM) | = | IDKS 80-02 |

# Wide-throw nozzles
# BN



**Crop production** | **Ground care**

Dimensions in mm.

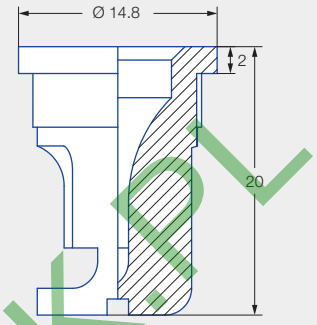
- Off center nozzle with wide throw characteristic
- For area spraying without spray boom and for border application and banding

## Advantages

- Asymmetrical flat spray nozzle
- Robust and clogging resistant flood nozzle design
- Spraying on both sides with max. 2.75 m spray band width with 0.5 m spray height
- Color marking of left-spraying nozzle (white) and right-spraying nozzle (black)
- Uniform cross distribution of nozzle combination

BN 07 L

BN 07 R




**Series BN**

**Application:**

**Banding**

**Boomless application**

**Technical data:**

**Nozzle size**
07

**Spray angle**
100°

**Material**
POM

**Pressure ranges**
1–**2**–**4**–6 bar

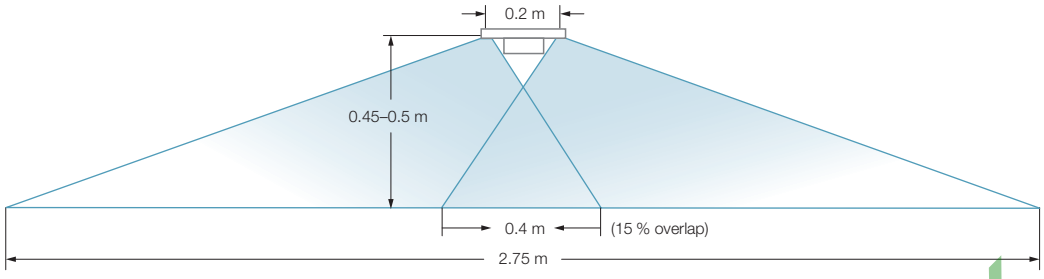
**Recommended strainer**
25 M

**Droplet sizes**
Medium – fine

**Union nut**
Ø 12.65 mm

| | | [l/min] | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.0 | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 |
| BN 07 | 25 M | 1.59 | 2.25 | 2.76 | 3.18 | 3.56 | 3.90 |

## Nozzle arrangement in the system




Fixed installation of BN nozzle using special bayonet cap system MULTIJET (see Page 124) and TWISTLOC (see Page 126) for flood nozzles.

## Assembly

Alternatively, nozzle assembly with a round hold bayonet cap (see Page 127) or union nut 3/8" (see Page 131).
Correct adjustment and alignment is performed by turning the nozzle, with a screwdriver at the tongue slot.

| Ordering example: | Series | + Nozzle size | + Material | = Order No. |
|---|---|---|---|---|
| | BN | + 07 | + POM L (white) | = BN 07 L |
| | BN | + 07 | + POM R (black) | = BN 07 R |

# Off center nozzles
# OC

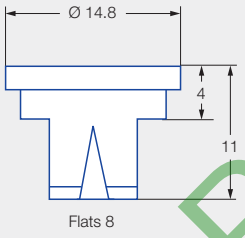
**Crop production** | **Ground care**

Dimensions in mm.

- Off center nozzle for border application and banding

## Advantages

- Laterally offset orifice
- Asymmetrical flat spray nozzle




**Series OC**

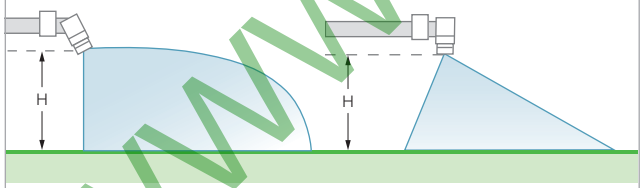
### Application:

- **Border nozzle**
- **Band spraying in orchards and vineyards**
- **Vertical boom**
- **Spray frame**
- **Backpack sprayer**
- **Greenhouse**
- **Riding arena floor**

### Technical data:

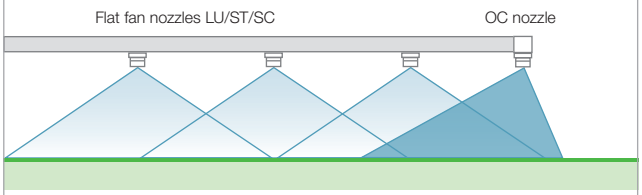
- **Nozzle sizes** 2–30
- **Spray angle** 90°
- **Materials** Brass, stainless steel
- **Pressure ranges** **1.5–2.5**–5 bar
- **Recommended strainers**
  - 60 M 2–4
  - 25 M 5–30
- **Droplet sizes** Medium – fine
- **Width across flats** 8 mm

## Spray dimensions




OC nozzle tips fitted in individual or double swivel joints (see Page 128) permit adjustment to any angle. Wide and narrow spray jet widths can be achieved in this way.

## Precise border spraying



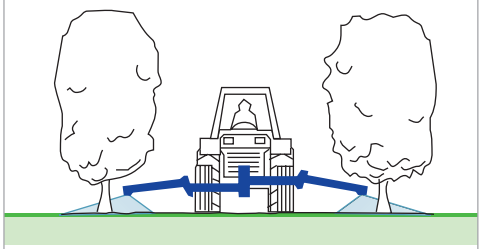
| | | [l/min] | | | | |
|---|---|---|---|---|---|---|
| | | 1.5 | 2.0 | 3.0 | 4.0 | 5.0 |
| OC 2 | 60 M | 0.49 | 0.65 | 0.80 | 0.92 | 1.03 |
| OC 3 | 60 M | 0.88 | 1.01 | 1.24 | 1.43 | 1.60 |
| OC 4 | 60 M | 1.11 | 1.28 | 1.56 | 1.81 | 2.02 |
| OC 5 | 25 M | 1.37 | 1.58 | 1.94 | 2.24 | 2.50 |
| OC 6 | 25 M | 1.64 | 1.90 | 2.32 | 2.68 | 3.00 |
| OC 8 | 25 M | 2.16 | 2.50 | 3.06 | 3.53 | 3.95 |
| OC 12 | 25 M | 3.47 | 4.00 | 4.90 | 5.66 | 6.33 |
| OC 20 | 25 M | 5.45 | 6.30 | 7.71 | 8.91 | 9.96 |
| OC 30 | 25 M | 8.66 | 10.00 | 12.25 | 14.14 | 15.81 |

- The stated l/ha values apply to water
- Check the nozzles by gauging the flow rates prior to every spraying season
- Pressure measured at the nozzle

| Nozzle size in boom (LU/ST/SC) | Required OC end nozzle |
|---|---|
| | Precise border spraying |
| -02 | OC 2 |
| -03 | OC 3 |
| -04 | OC 4 |
| -05 | OC 5 |
| -06 | OC 6 |
| -08 | OC 8 |

## Nozzle adjustment

Underleaf spraying in row crops



Band spraying in orchards and vineyards

| Ordering example: | Series | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|
| | OC | + | 2 | + | S (stainless steel) | = | OC 2 S |
| | OC | + | 2 | + | M (brass) | = | OC 2 M |

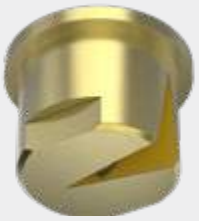
# Wide-throw nozzles
## OC

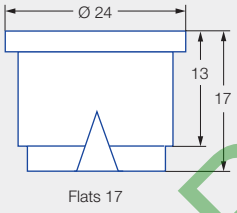
**Crop production** | **Ground care**

Dimensions in mm.

- Off center nozzle with large throw width

### Advantages
- Laterally offset orifice
- Asymmetrical flat spray nozzle
- Spraying range 6 to 8 m






**Wide-throw nozzle OC**

**Application:**

**Greenhouse**

**Riding arena floor**

**Boomless application**

**Technical data:**

**Nozzle sizes**
40–80

**Spray angle**
90°

**Material**
Brass

**Pressure ranges**
**2–5** bar

**Recommended strainer**
25 M

**Droplet sizes**
Medium – fine

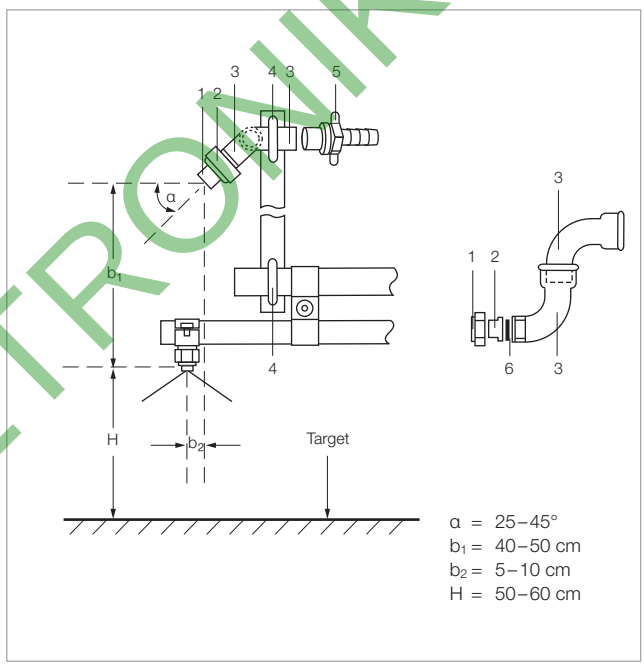
**Width across flats**
17 mm

| | [l/min] | | | | Recommended nozzle combination with flat spray nozzles, e.g. with LU/IDK/IDKN nozzles |
|---|---|---|---|---|---|
| | 2.0 | 3.0 | 4.0 | 5.0 | 5.0 |
| **OC 40** | 12.50 | 15.30 | 17.70 | 19.80 | -03/-04 |
| **OC 60** | 20.00 | 24.49 | 28.28 | 31.62 | -05/-06 |
| **OC 80** | 25.00 | 30.62 | 35.36 | 39.53 | -06/-08 |

- The stated l/ha values apply to water
- Check the nozzles by gauging the flow rates prior to every spraying season
- Pressure measured at the nozzle

## Mounting on boom/nozzle adjustment

A wide-throw nozzle is fitted at each end of the boom. The individual nozzles are supplied via additional section valves or branches (with T connectors) from existing sufficiently dimensioned feedlines.
It must be ensured that the equipment has a pump with a sufficiently high delivery (additional flow rate for two wide-throw nozzles approx. 80 l/min).




α = 25–45°
$b_1$ = 40–50 cm
$b_2$ = 5–10 cm
H = 50–60 cm

| Position | Designation | Order No. |
|---|---|---|
| **1** | Wide-throw nozzle | **OC 40**<br>**OC 60**<br>**OC 80** |
| **2** | Union nut | **065.600.30.00** |
| **3** | Angle 90°, 3/4" male and female threads | see Page 135 |
| **4** | Pipe clamp | – |
| **5** | Hose shank, 3/4" | see Page 132 + 133 |
| **6** | Gasket | **065.640.72.00** |

## Spraying range/effective working width

The spraying range can be influenced by the setting angle α:

| Setting angle, α [°] | Spraying range, a [m] |
|---|---|
| **25** | 9.0 |
| **30** | 8.5 |
| **35** | 8.0 |
| **40** | 6.0 |
| **45** | 5.5 |

## Assembly

**Double nipple**
**Order No. 065.611.30**

**Gasket**
**Order No. 065.640.72**

**Wide-throw nozzle**

**Threaded cap 3/4"**
**Order No. 065.600.xx**
(brass or stainless steel)

# Even flat fan nozzles
# E

**Crop production** | **Ground care**

Dimensions in mm.

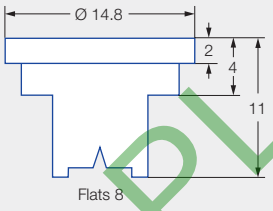
- Flat spray nozzle with rectangular liquid distribution
- For band and row spraying

## Advantages

- 90 % drift reduction for 8002 to 8004 E
- Fully formed spray angle from 1 bar
- Uniform active ingredient distribution over the whole band width
- Extremely small spraying distances possible
- Suitable for PWM

E

E-M




**Series E**

| Spray height H [cm] | Band width B [cm] | Product application quantity[1] [%], at row spacing A | | |
|---|---|---|---|---|
| | | 50 cm | 75 cm | 100 cm |
| 7 | 10 | 20 | 13 | 10 |
| 10 | 15 | 30 | 20 | 15 |
| 13 | 20 | 40 | 27 | 20 |
| 16 | 25 | 50 | 33 | 25 |

[1] Percentages, in comparison with full-area treatment.

**JKI approval as loss-reducing: 90 %**

G 1435, G 1436, G 1437, G 1438

**Current list at:**
**www.lechler.com/de/service/verlust-mindernde-technik**

## Reduction in application rate

Depending on the band and row width, the amount of spraying liquid for band spraying amounts to 10–50 % of the amount for full-area treatment. Calculation formula for band and row spraying, see Page 9 and Lechler app.

**Application:**

**Backpack sprayer**

**Band spraying**

**Technical data:**

**Nozzle sizes**
01–08

**Spray angle**
80°

**Materials**
Brass, POM

**Pressure ranges**
**1–3**–4 bar

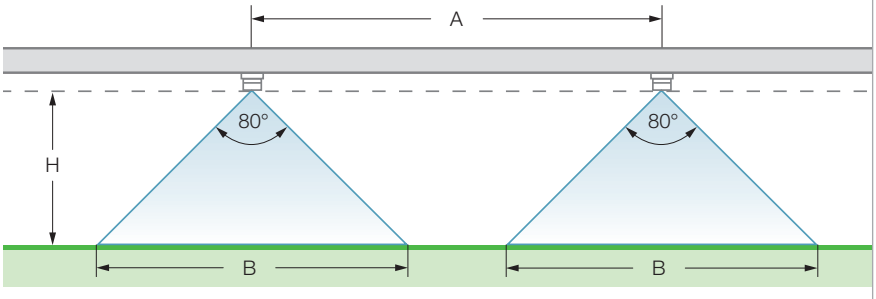
**Recommended strainers**
- 80 M 01–015
- 60 M 02–04
- 25 M 05–08

**Droplet sizes**
Very coarse – very fine

**Width across flats**
8 mm

## Nozzle adjustment

Extremely small spray heights (H) possible with even flat fan nozzles E. Band drift can be largely avoided. The band width (B) can be adjusted by changing the spray height (H) and/or rotating the spray axis.



| | ISO 25358 | bar | [l/min] | Application rate [l/ha] | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Row spacing 0.5 m | | | | | Row spacing 0.75 m | | | | | Row spacing 1.0 m | | | | | |
| | | | | 5.0 km/h | 6.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 5.0 km/h | 6.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h | 5.0 km/h | 6.0 km/h | 8.0 km/h | 10.0 km/h | 12.0 km/h |
| E 8001 (80 M) | F | 1.0 | 0.23 | 55 | 46 | 35 | 28 | 23 | 37 | 31 | 23 | 18 | 15 | 28 | 23 | 17 | 14 | 12 |
| | F | 1.5 | 0.28 | 67 | 56 | 42 | 34 | 28 | 45 | 37 | 28 | 22 | 19 | 34 | 28 | 21 | 17 | 14 |
| | F | 2.0 | 0.32 | 77 | 64 | 48 | 38 | 32 | 51 | 43 | 32 | 26 | 21 | 38 | 32 | 24 | 19 | 16 |
| | VF | 3.0 | 0.39 | 94 | 78 | 59 | 47 | 39 | 62 | 52 | 39 | 31 | 26 | 47 | 39 | 29 | 23 | 20 |
| | VF | 4.0 | 0.45 | 108 | 90 | 68 | 54 | 45 | 72 | 60 | 45 | 36 | 30 | 54 | 45 | 34 | 27 | 23 |
| E 80015 (80 M) | F | 1.0 | 0.34 | 82 | 68 | 51 | 41 | 34 | 54 | 45 | 34 | 27 | 23 | 41 | 34 | 26 | 20 | 17 |
| | F | 1.5 | 0.42 | 101 | 84 | 63 | 50 | 42 | 67 | 56 | 42 | 34 | 28 | 50 | 42 | 32 | 25 | 21 |
| | F | 2.0 | 0.48 | 115 | 96 | 72 | 58 | 48 | 77 | 64 | 48 | 38 | 32 | 58 | 48 | 36 | 29 | 24 |
| | VF | 3.0 | 0.59 | 142 | 118 | 89 | 71 | 59 | 94 | 79 | 59 | 47 | 39 | 71 | 59 | 44 | 35 | 30 |
| | VF | 4.0 | 0.68 | 163 | 136 | 102 | 82 | 68 | 109 | 91 | 68 | 54 | 45 | 82 | 68 | 51 | 41 | 34 |
| E 8002 (60 M) | M | 1.0 | 0.46 | 110 | 92 | 69 | 55 | 46 | 74 | 61 | 46 | 37 | 31 | 55 | 46 | 35 | 28 | 50 |
| | M | 1.5 | 0.56 | 134 | 112 | 84 | 67 | 56 | 90 | 75 | 56 | 45 | 37 | 67 | 56 | 42 | 34 | 57 |
| | M | 2.0 | 0.65 | 156 | 130 | 98 | 78 | 65 | 104 | 87 | 65 | 52 | 43 | 78 | 65 | 49 | 39 | 71 |
| | F | 3.0 | 0.80 | 192 | 160 | 120 | 96 | 80 | 128 | 107 | 80 | 64 | 53 | 96 | 80 | 60 | 48 | 57 |
| | F | 4.0 | 0.92 | 221 | 184 | 138 | 110 | 92 | 147 | 123 | 92 | 74 | 61 | 110 | 92 | 69 | 55 | 81 |
| E 8003 (60 M) | C | 1.0 | 0.72 | 173 | 144 | 108 | 86 | 72 | 115 | 96 | 72 | 58 | 48 | 86 | 72 | 54 | 43 | 36 |
| | M | 1.5 | 0.88 | 211 | 176 | 132 | 106 | 88 | 141 | 117 | 88 | 70 | 59 | 106 | 88 | 66 | 53 | 44 |
| | M | 2.0 | 1.01 | 242 | 202 | 152 | 121 | 101 | 162 | 135 | 101 | 81 | 67 | 121 | 101 | 76 | 61 | 51 |
| | F | 3.0 | 1.24 | 298 | 248 | 186 | 149 | 124 | 198 | 165 | 124 | 99 | 83 | 149 | 124 | 93 | 74 | 62 |
| | F | 4.0 | 1.43 | 343 | 286 | 215 | 172 | 143 | 229 | 191 | 143 | 114 | 95 | 172 | 143 | 107 | 86 | 72 |
| E 8004 (60 M) | VC | 1.0 | 0.91 | 218 | 182 | 137 | 109 | 91 | 146 | 121 | 91 | 73 | 61 | 109 | 91 | 68 | 55 | 46 |
| | C | 1.5 | 1.12 | 269 | 224 | 168 | 134 | 112 | 179 | 149 | 112 | 90 | 75 | 134 | 112 | 84 | 67 | 56 |
| | C | 2.0 | 1.29 | 310 | 258 | 194 | 155 | 129 | 206 | 172 | 129 | 103 | 86 | 155 | 129 | 97 | 77 | 65 |
| | M | 3.0 | 1.58 | 379 | 316 | 237 | 190 | 158 | 253 | 211 | 158 | 126 | 105 | 190 | 158 | 119 | 95 | 79 |
| | M | 4.0 | 1.82 | 437 | 364 | 273 | 218 | 182 | 291 | 243 | 182 | 146 | 121 | 218 | 182 | 137 | 109 | 91 |
| E 8005 (25 M) | VC | 1.0 | 1.14 | 274 | 228 | 171 | 137 | 114 | 182 | 152 | 114 | 91 | 76 | 137 | 114 | 86 | 68 | 57 |
| | VC | 1.5 | 1.39 | 334 | 278 | 209 | 167 | 139 | 222 | 185 | 139 | 111 | 93 | 167 | 139 | 104 | 83 | 70 |
| | C | 2.0 | 1.61 | 386 | 322 | 242 | 193 | 161 | 258 | 215 | 161 | 129 | 107 | 193 | 161 | 121 | 97 | 81 |
| | M | 3.0 | 1.97 | 473 | 394 | 296 | 236 | 197 | 315 | 263 | 197 | 158 | 131 | 236 | 197 | 148 | 118 | 99 |
| | M | 4.0 | 2.28 | 547 | 456 | 342 | 274 | 228 | 365 | 304 | 228 | 182 | 152 | 274 | 228 | 171 | 137 | 114 |
| E 8006 (25 M) | VC | 1.0 | 1.36 | 326 | 272 | 204 | 163 | 136 | 218 | 181 | 136 | 109 | 91 | 163 | 136 | 102 | 82 | 68 |
| | VC | 1.5 | 1.67 | 401 | 334 | 251 | 200 | 167 | 267 | 223 | 167 | 134 | 111 | 200 | 167 | 125 | 100 | 84 |
| | VC | 2.0 | 1.93 | 463 | 386 | 290 | 232 | 193 | 309 | 257 | 193 | 154 | 129 | 232 | 193 | 145 | 116 | 97 |
| | C | 3.0 | 2.36 | 566 | 472 | 354 | 283 | 236 | 378 | 315 | 236 | 189 | 157 | 283 | 236 | 177 | 142 | 118 |
| | M | 4.0 | 2.73 | 655 | 546 | 410 | 328 | 273 | 437 | 364 | 273 | 218 | 182 | 328 | 273 | 205 | 164 | 137 |
| E 8008 (25 M) | VC | 1.0 | 1.82 | 437 | 364 | 273 | 218 | 182 | 291 | 243 | 182 | 146 | 121 | 218 | 182 | 137 | 109 | 91 |
| | VC | 1.5 | 2.23 | 535 | 446 | 335 | 268 | 223 | 357 | 297 | 223 | 178 | 149 | 268 | 223 | 167 | 134 | 112 |
| | VC | 2.0 | 2.58 | 619 | 516 | 387 | 310 | 258 | 413 | 344 | 258 | 206 | 172 | 310 | 258 | 194 | 155 | 129 |
| | C | 3.0 | 3.16 | 758 | 632 | 474 | 379 | 316 | 506 | 421 | 316 | 253 | 211 | 379 | 316 | 237 | 190 | 158 |
| | M | 4.0 | 3.65 | 876 | 730 | 548 | 438 | 365 | 584 | 487 | 365 | 292 | 243 | 438 | 365 | 274 | 219 | 183 |

**ISO 25358 classification according to droplet sizes:**

| | |
|---|---|
| VF | Very fine |
| F | Fine |
| M | Medium |
| C | Coarse |
| VC | Very coarse |
| EC | Extremely coarse |
| UC | Ultra coarse |

Subject to modifications.

- Operating pressure at the nozzle (measured with diaphragm valve)
- The stated liter-per-hectare rates apply to water
- Verify the table values by gauging the flow rates prior to every spraying season
- Pay attention to uniform nozzle adjustment

**Nozzle calculator app**

The apps for Lechler agricultural nozzles make selection and use of the optimum nozzle even easier. Find out more here: **www.lechler.com/de-en/service/apps**

| Ordering example: | Series | + | Nozzle size | + | Material | = | Order No. |
|---|---|---|---|---|---|---|---|
| | E | + | 02 | + | M (brass) | = | E 8002 M |
| | E | + | 02 | + | (POM) | = | E 8002 |

# Injector agitator nozzles

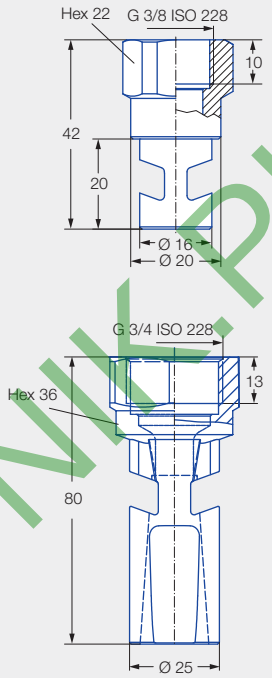
- Agitator nozzle for fast, homogeneous mixing in tanks

## Advantages

- Injector effect reinforces turbulence of the solid jet in the tank
- Effective circulation of large flow quantities with a relatively small flow rate
- Clog-resistant due to large cross-sections

Injector agitator nozzle

Dimensions in mm.




**Technical data:**

**Bore diameter**
Ø 2.2 – 10.55 mm

**Material**
PP

**Pressure ranges**
**2–10** bar

| Order No. | Bore diameter [mm] | V̇ [l/min] | | | | |
|---|---|---|---|---|---|---|
| | | 2.0 bar | 4.0 bar | 6.0 bar | 8.0 bar | 10.0 bar |
| 500.262.53.02 | 2.20 | 4.40 | 6.30 | 7.70 | 8.90 | 9.90 |
| 500.262.53.04 | 3.60 | 11.10 | 15.70 | 19.20 | 22.10 | 27.70 |
| 500.262.53.06 | 4.50 | 18.30 | 26.00 | 31.80 | 36.70 | 41.00 |
| 500.262.53.08 | 6.00 | 31.60 | 44.70 | 54.80 | 63.20 | 70.70 |
| 500.262.53.20[1] | 10.55 | 96.10 | 136.00 | 166.50 | 192.30 | 215.00 |

[1] See dimensioning.

## Assembly

Assembly with eyelet connector (see Page 128).

# Cleaning nozzle for induction hoppers
## WallCleaner

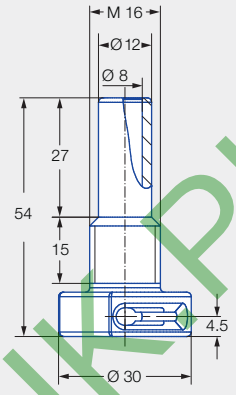
- Special nozzle for induction hoppers for induction and cleaning
- Color-coded in accordance with ISO 10625, in size 40

### Advantages

- Lump-free induction of plant protection products by rotating liquid flow
- Complete rinsing of inner wall up to under the edge for round induction hoppers
- Simple assembly by
  – M 16 bolt/nut design
  – Plug connection for rinsing water (dia. 12 mm)
- Simple alignment of nozzle head with open-end wrench AF 24


**WallCleaner**

Dimensions in mm.




**Technical data:**

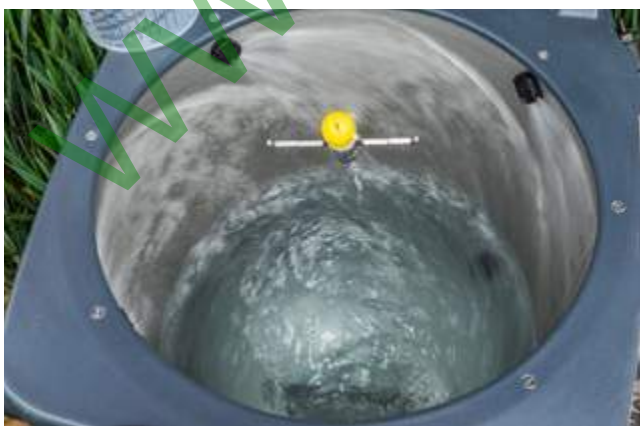
**Bore diameter**
Ø 4.0 mm

**Spray angle**
60°

**Material**
POM

**Pressure ranges**
2–**4**–**8** bar

| Designation | Order No. | Bore diameter [mm] | V̇ [l/min] | | | |
|---|---|---|---|---|---|---|
| | | | 2.0 bar | 4.0 bar | 6.0 bar | 8.0 bar |
| WallCleaner 40 | 600.569.56.40 | 4.0 | 14.0 | 19.8 | 24.3 | 28.0 |
| Gasket for WallCleaner | 095.015.6C.01.99 | – | – | – | – | – |



Complete rinsing of induction hopper up to under the cover edge with a total of four WallCleaner nozzles.

# High-pressure fog nozzle
# 2MN

- High-pressure fog nozzle
- For air moisturization, adiabatic cooling and disinfection in livestock buildings and greenhouses

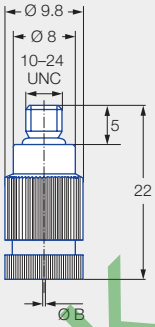
## Advantages
- Extremely fine, mist-like hollow cone atomization
- Integrated non-return valve

## Connection
- 10–24 UNC

## Other variants on request:
- Bore diameter
  – 0.6 mm
  – 0.7 mm
- Connections
  – 12–24 UNC
  – M5
- Material
  – Stainless steel 1.4404
- Gasket
  – FKM/Viton (brown)
- Blanking plug

Series 2MN

Dimensions in mm.




## Application:

**Greenhouse**

**Livestock buildings**

## Technical data:

**Bore diameter**
0.15–0.5 mm
0.6 and 0.7 mm
on request

**Spray angles**
55°–95°

**Materials**
Stainless steel 1.4305,
Nozzle tip 1.4404,
spring 1.4310,
gaskets NBR (black)

**Pressure ranges**
30–**60**–**80**–130 bar

| Spray angle | Order No. | Stainless steel 1.4305 | B Ø [mm] | V̇ [l/h] p [bar] (pmin = 30 bar)[1] (pmax = 130 bar)[2] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 55° | 2MN.014.16.00.00 | ● | 0.15 | 1.44 | 2.28 | 2.58 | 2.82 | 3.00 | 3.48 | 3.84 | 4.08 |
| 70° | 2MN.025.16.00.00 | ● | 0.20 | 2.46 | 3.42 | 3.78 | 4.26 | 4.50 | 5.10 | 5.10 | 5.46 |
| 85° | 2MN.055.16.00.00 | ● | 0.30 | 4.20 | 4.92 | 5.46 | 6.12 | 6.30 | 6.96 | 7.32 | 7.92 |
| 90° | 2MN.086.16.00.00 | ● | 0.40 | 5.64 | 6.96 | 7.68 | 8.52 | 9.00 | 9.54 | 10.14 | 11.10 |
| 95° | 2MN.106.16.00.00 | ● | 0.50 | 7.02 | 8.16 | 9.60 | 10.80 | 11.40 | 11.70 | 12.54 | 13.68 |

[1] Opening pressure: approx. 8 bar.
[2] The pipe system is the limiting factor.

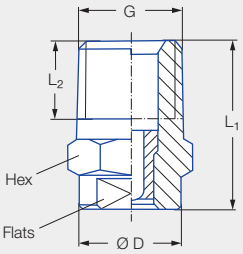
# High- and medium-pressure cleaning nozzles

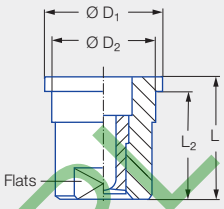
- Solid and flat spray nozzles for high- and medium-pressure cleaning

## Advantages

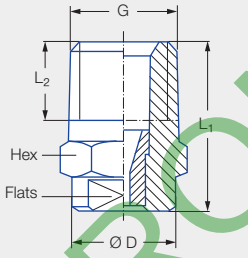
- Maximum cleaning force for razor-sharp cleaning jets
- Wear-resistant special stainless steel for long service life
- Protection against mechanical damage through recessed outlet opening
- Maximum precision for uniform, concentrated jet force
- Connection possible via male thread and union nut

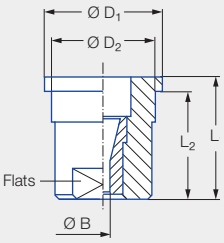
Dimensions in mm.




**Flat fan nozzles**




**Solid stream nozzles**

| G | Dimensions [mm] | | | | | | | | Weight [g] | $p_{max}$ [1] [bar] |
|---|---|---|---|---|---|---|---|---|---|---|
| | $L_1$ | $L_2$ | Ø D | Ø $D_1$ | Ø $D_2$ | Flats | Hex | Flats | | |
| EN 10226 R 1/4 | 22.00 | 10.00 | 13.00 | – | – | – | 14 | 10 | 18.00 | approx. 700 |
| 1/4 NPT | 22.00 | 10.00 | 13.00 | – | – | – | 14 | 10 | 18.00 | approx. 700 |
| Assembly with union nut G 3/8 ISO 228 | 16.00 | 14.00 | – | 14.80 | 12.65 | 10 | – | – | 13.00 | approx. 300 |

[1] Applies only to operation with constant pressure.

**Technical data:**

**Nozzle sizes**
04–06

**Spray angles**
0°–40°

**Material**
Hardened stainless steel (carbide insert on request)

**Pressure ranges**
5–**40**–**200** bar

**Width across flats**
10 mm

| Spray angle | Nozzle size | V̇ [l/min] [bar] | | | Order No. Male thread | | Version for union nut |
|---|---|---|---|---|---|---|---|
| | | 5.0 | 60.0 | 100.0 | 1/8" NPT | 1/4" NPT | G 3/8 |
| 0° | 04 | 2.04 | 7.1 | 9.2 | **550.450** | **546.450** | **548.450** |
| | 05 | 2.55 | 8.9 | 11.5 | **550.480** | **546.480** | **548.480** |
| | 06 | 3.05 | 10.6 | 13.6 | **550.520** | **546.520** | **548.520** |
| 15° | 04 | 2.04 | 7.1 | 9.2 | **608.451** | **602.451** | **652.451** |
| | 05 | 2.55 | 8.9 | 11.5 | **608.481** | **602.481** | **652.481** |
| | 06 | 3.05 | 10.6 | 13.6 | **608.521** | **602.521** | **652.521** |
| 25° | 04 | 2.04 | 7.1 | 9.2 | **608.452** | **602.452** | **652.452** |
| | 05 | 2.55 | 8.9 | 11.5 | **608.482** | **602.482** | **652.482** |
| | 06 | 3.05 | 10.6 | 13.6 | **608.522** | **602.522** | **652.522** |
| 40° | 04 | 2.04 | 7.1 | 9.2 | **608.453** | **602.453** | **652.453** |
| | 05 | 2.55 | 8.9 | 11.5 | **608.483** | **602.483** | **652.483** |
| | 06 | 3.05 | 10.6 | 13.6 | **608.523** | **602.523** | **652.523** |

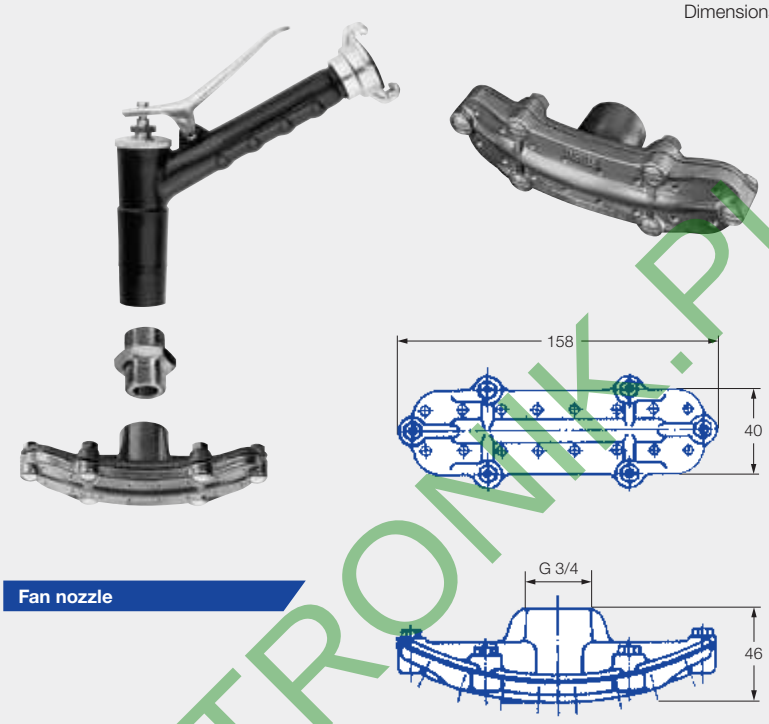
# Fan nozzles

- Special nozzle for gentle delivery of large liquid quantities

## Advantages

- Fine, gentle atomization
- Gentle plant irrigation
- Effective disinfection of livestock buildings. Please observe the safety instructions of the product manufacturer
- Optionally available with spray gun and GEKA connection coupling

Dimensions in mm.




**Fan nozzle**

**Technical data:**

**Material**
Light alloy

**Pressure ranges**
**2–10** bar

| Order No. | |
|---|---|
| Spray gun with GEKA connection coupling | Double nipple G 3/4 |
| **095.016.00.01.76** | **065.611.30** |

| Order No. Nozzle without stay tube Connection G 3/4 | Flow rate [l/min] | | |
|---|---|---|---|
| | 2.0 bar | 5.0 bar | 10.0 bar |
| **531.003.41.00** | 31.5 | 49.8 | 70.4 |
| **531.093.41.00** | 53.0 | 83.8 | 119.0 |
| **531.133.41.00** | 67.0 | 106.0 | 150.0 |

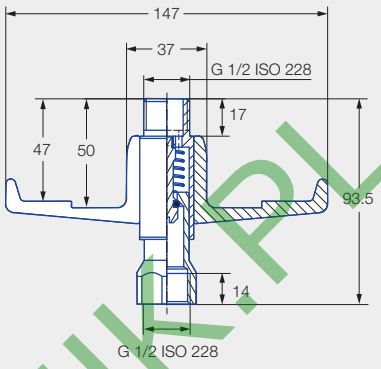
# Automatic valves for canister cleaning
## CleanerValve and dead man's circuit

- Safety valves with dead man's circuit for practical canister cleaning

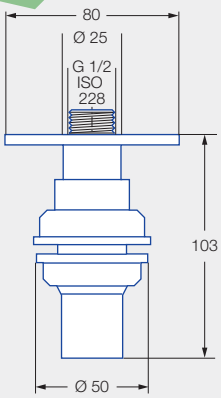
### Advantages of CleanerValve
- Better cleaning effect due to deeper nozzle insertion into the canister
- Very robust valve made of stainless steel
- Extra-wide bearing area for easy cleaning of measuring cups
- User protection: gradings on the bearing area prevent slipping

### Advantages of dead man's circuit
- Valve is simple and convenient to operate
- Safety valve opens only in the event of container pressure
- Can be combined with static and rotating tank cleaning nozzles
- Versatile suitability for internal cleaning of all common canisters, containers and plant protection product packaging

Dimensions in mm.




**CleanerValve**




**Dead man's circuit**

**Technical data:**

**Materials**
Stainless steel, POM

**Pressure ranges**
**2–5** bar
Pressure > 5 bar:
Use orifice for
pressure reduction

**Width across flats**
CleanerValve
hex dia. 27 mm

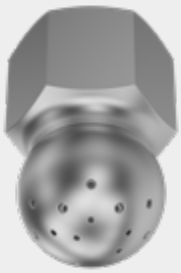
| Designation | Material | Order No. |
|---|---|---|
| CleanerValve | Stainless steel | 092.175.17.01.00 |
| Dead man's circuit | POM | A.510.100.00 |

# Static spray ball
# 540/541

- Static multichannel solid jet nozzle

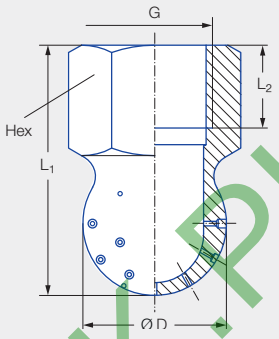
## Advantages

- Ideal for rinsing containers
- Compact design
- Self-draining
- No moving parts and thus faultfree
- Easy to inspect



Series 540/541

Dimensions in mm.




Female thread

**Technical data:**

**Spray angle**
240°

**Materials**
Solid stainless steel, PVC

**Pressure ranges**
2–**3**–10 bar

**Operating principle**
Static

**Installation**
Operation in every installation position

**Max. tank diameter**
7.5 m

| Spray angle | Order No. | V̇ water [l/min] | | | | | Max. tank diameter [m] |
|---|---|---|---|---|---|---|---|
| | | 2.0 bar | 3.0 bar | 4.0 bar | 5.0 bar | 10.0 bar | |
| 240° | **540.909.16**[1] | 18.0 | 22.0 | 25.4 | 28.5 | 40.2 | 6.5 |
| | **540.989.16**[1] | 28.0 | 34.3 | 39.6 | 44.3 | 62.6 | 7.0 |
| | **541.109.16** | 57.0 | 69.8 | 80.6 | 90.1 | 127.5 | 7.5 |

[1] Also available in PVC.

# Rotating cleaners
## ContiCleaner with slide bearing and MicroWhirly

- Rotating cleaning head with flat spray nozzles and slide bearings

### Advantages of ContiCleaner
- Optimized for continuous internal cleaning
- Color-coded in accordance with ISO 10625 in sizes 12, 25, 30 and 60
- Starts up reliably even at low pressure
- Suitable for all sprayers

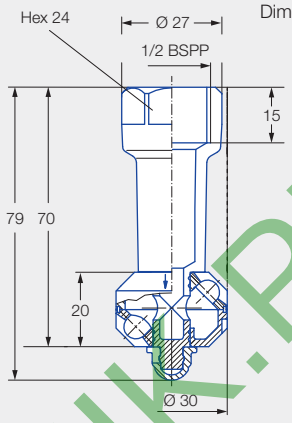
### Advantages of MicroWhirly
- Effective rotating cleaning by means of flat spray nozzles
- Optimum internal cleaning of plant protection equipment tanks, canisters, containers and plant protection product packaging
- Self-powered, without external drive
- Robust design
- Resistant to chemicals

**ATEX version on request**

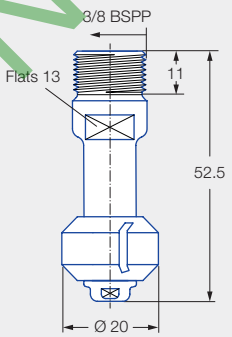
ContiCleaner

MicroWhirly

Dimensions in mm.




Female thread




Male thread

FDA

**Technical data:**

**Spray angle**
360°

**Materials**
PVDF, PTFE, stainless steel

**Pressure ranges**
**2**–5 bar

**Operating principle**
Free-spinning

**Installation**
Operation in every installation position

**Max. tank diameter**
ContiCleaner: 1.6 m
Type 566: 1.7 m

**Pre-filtering**
Line strainer with a mesh size 0.3 mm/50

**Bearing**
Slide bearing

**Function video**
**www.lechler.com/de-en/medialibrary**
Or simply scan the QR code.

| Spray angle | Designation | Order No. | Material | | | V̇ Wasser [l/min] p [bar] ($p_{max}$ = 7 bar) | | | Max. tank diameter [m] |
|---|---|---|---|---|---|---|---|---|---|
| | | | AISI 316L | PVDF | PTFE and PVDF | 2.0 bar | 3.0 bar | 5.0 bar | |
| 360° | ContiCleaner 12 (60 M) | 500.191.55.12.00 | | | ● | 4.1 | 5.0 | 6.5 | 1.6 |
| | ContiCleaner 25 (60 M) | 500.191.55.25.00 | | | ● | 8.2 | 10.0 | 12.9 | 1.6 |
| | ContiCleaner 30 (60 M) | 500.191.55.33.00 | | | ● | 9.8 | 12.0 | 15.5 | 1.6 |
| | ContiCleaner 60 (25 M) | 500.191.55.60.00 | | | ● | 20.4 | 25.0 | 32.3 | 1.6 |
| | MicroWhirly stainless steel (25 M) | 566.939.1Y.AE | ● | | | 21.0 | 26.0 | 33.6 | 1.7 |
| | MicroWhirly PVDF (25 M) | 500.191.5E.00 | | ● | | 20.0 | 24.0 | 31.0 | 1.1 |

# Rotating cleaners
## CanCleaner und MiniWhirly

- Rotating cleaning head with flat spray nozzles and ball bearings

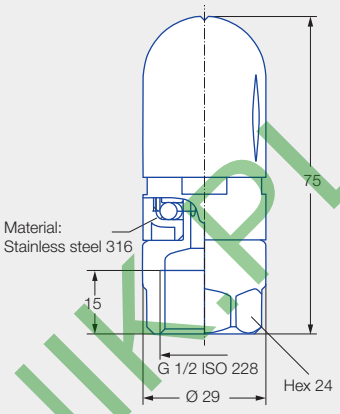
### Advantages
- Effective rotating cleaning by means of flat spray nozzles
- Optimum internal cleaning of plant protection equipment tanks, canisters, containers and plant protection product packaging
- Self-powered, without external drive
- Slow rotation for optimum cleaning effect
- Resistant to chemicals

### CanCleaner
- Even more effective cleaning due to 20 % higher flow rate towards canister bottom
- Color-coded in accordance with ISO 10625, in size 60

CanCleaner

MiniWhirly

Dimensions in mm.




**CanCleaner/MiniWhirly**

**Technical data:**

**Spray angle**
300°

**Materials**
POM, stainless steel

**Pressure ranges**
**2–3**–5 bar

**Operating principle**
Free-spinning

**Max. tank diameter**
1,3 m

**Pre-filtering**
Line strainer with a mesh size 0.3 mm/50

**Bearing**
Ball bearing made of stainless steel

**Function video**
**www.lechler.com/de-en/medialibrary**
Or simply scan the QR code.

| Spray angle | Designation | Order No. | V̇ water [l/min] | | | | Max. tank diameter [m] |
|---|---|---|---|---|---|---|---|
| | | | 2.0 bar | 3.0 bar | 4.0 bar | 5.0 bar | |
| 300° | CanCleanar 60 (25 M) | **500.186.56.06.00** | 20.4 | 25.0 | 28.9 | 32.3 | 1.3 |
| | MiniWhirly (25 M) | **500.186.56.AH** | 18.0 | 22.0 | 25.4 | 28.4 | 1.3 |

# Rotating cleaner
# MiniSpinner 2
# 5M3

- Rotating cleaning head with flat spray nozzles and double ball bearings

## Advantages

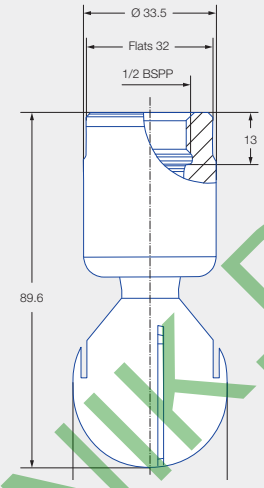
- Hygienic design
- Suitable for high temperatures
- Made completely of stainless steel

**ATEX version on request**

Series 5M3

FDA

Dimensions in mm.




### Technical data:

**Spray angle**
360°

**Material**
Stainless steel 1.4404 (316L)

**Pressure ranges**
1–**2**–3 bar

**Operating principle**
Free-spinning

**Installation**
Operation in every installation position

**Max. tank diameter**
2.3 m

**Pre-filtering**
Line strainer with mesh size 0.1 mm/170

**Bearing**
Double ball bearing made of stainless steel 1.4404 (316L)

**Cleaning efficiency class**
2

**Adapter**
G 1/2 ISO 228 and G 3/4 ISO 228 is compatible with HygienicFit

**Max. temperature**
250 °C

**Function video**
**www.lechler.com/de-en/medialibrary**
Or simply scan the QR code.

| Spray angle | Order No. | | | | Narrowest cross-section Ø [mm] | V̇ water [l/min] | | | | Max. tank diameter [m] |
|---|---|---|---|---|---|---|---|---|---|---|
| | Type | Connection | | | | p [bar] ($p_{max}$ = 7 bar) | | | | |
| | | G 1/2 ISO 228 | G 3/4 ISO 228 | 3/4" plug connection | | 1.0 | **2.0** | 3.0 | at 40 psi [US gal/min] | |
| 60° | **5M3.122.1Y** | **AH** | | **TF07** | 2.6 | 45 | **63** | 77 | 20 | – |
| 180° | **5M3.133.1Y** | | **AL** | **TF07** | 1.2 | 47 | **67** | 82 | 21 | 2.6 |
| 180° | **5M3.134.1Y** | | **AL** | **TF07** | 1.3 | 47 | **67** | 82 | 21 | 2.6 |
| 360° | **5M3.999.1Y** | | **AL** | **TF07** | 0.4 | 21 | **30** | 37 | 9 | 1.8 |
| | **5M3.089.1Y** | | **AL** | **TF07** | 0.7 | 35 | **49** | 60 | 15 | 2.1 |
| | **5M3.139.1Y** | | **AL** | **TF07** | 0.8 | 49 | **69** | 85 | 21 | 2.3 |
| | **5M3.209.1Y** | | **AL** | **TF07** | 1.5 | 71 | **100** | 122 | 31 | 2.6 |

NPT threads, other plug connections and weld-on versions on request.

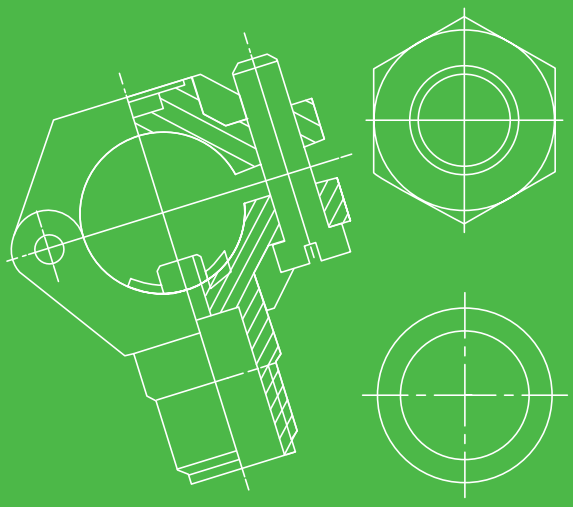
The maximum tank diameter shown above applies for the recommended operating pressure and is indicative only. The type of soiling is also decisive for the cleaning result.
Compressed air can be used only for a short time for blowing dry. Use above the recommended pressure will have a negative effect on the cleaning result and wear.

**Good to know**

You can find detailed information in our brochure “Tank and equipment cleaning” and at **www.lechler.com/de-en/tankcleaningnozzles**

| Ordering example: | Type | + | Connection | = | Order No. |
|---|---|---|---|---|---|
| | 5M3.999. 1Y | + | AL | = | 5M3.999.1Y.AL |

# ACCESSORY RANGE
# **IN DETAIL**



# ESV (Electrical Stop Valve)

- Electrical Stop Valve, for individual nozzle control

## Advantages

- Energy storage device with boost and buck mode (patented)
- More precise application due to individual nozzle control
- Ability to communicate with ISOBUS
- Retrofitting possible due to simple cabling
- Very robust thanks to encapsulated electronics and ventilation in the valve
- Extremely energy-efficient due to charge controller and supercapacitor

**Electrical Stop Valve: greater precision and cost savings due to reduced overlap**

**Technical data:**

**Total power consumption**
Max. 120 mA

**Emergency-stop function**
For input voltage
< 8 V

**Valve switching time**
Opening: 0.3 s
Closing: 0.45 s

**Protection class**
IP 65

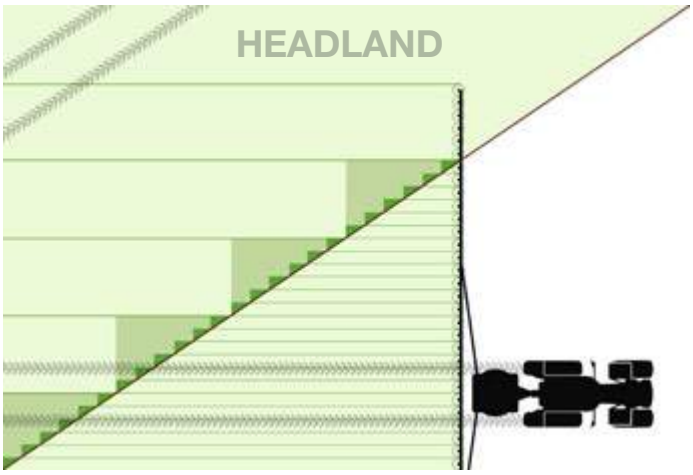
**Materials**
PA, POM, Viton, PTFE, stainless steel

**Pressure range**
Max. 8 bar

| Designation | Order No. |
|---|---|
| Valve, inside (black) | 065.288.00.00.00 |
| Valve, outside (gray) | 065.288.00.01.00 |
| Terminating resistor | 065.288.00.30.00 |
| Adapter box | 065.288.00.50.00 |
| Adapter box for intermediate power supply | 065.288.00.51.00 |
| Extension cable 2.5 m | 065.288.00.20.00 |

## Individual nozzle control with the ESV

Section widths of 50 cm to 25 cm possible.
Comparison of overlap with 3 m and 0.5 m section widths.




= treated once
= overlap with 3 m section widths
= overlap with ESV

# PSV (Pneumatic Stop Valve)

- Pneumatic Stop Valve pre-assembled on single nozzle holder

## Advantages

- Continuous field spray line design as ring line with circulation and return
- Spray pressure is held in the spray line when nozzles are closed
- Immediate spray jet build-up at all nozzles after opening the pneumatic stop valves
- Simpler boom design since no section valves are required
- Rotating pneumatic connector facilitates assembly and routing of the air pressure line in the boom

**Single nozzle holder with Pneumatic Stop Valve and standard pneumatic connection**

**Technical data:**

**Materials**
PA, POM, Viton, PTFE, stainless steel

**Pressure range**
Max. 8 bar, air pressure min. 4.5 bar

**Emergency-stop function**
At air pressure below 4.5 bar

**Valve switching time**
0.2 s

| Order No. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Series | Pipe diameter | | | | | Pneumatic quick-action connectors (optional) | | | | |
| | 20 mm | 1/2" | 25 mm | 3/4" | 1" | Standard | 90° | Straight | T | Y |
| 065.282.56 | 20 | 21 | 25 | 27 | 34 | 0B | 0A | 0S | 0T | 0Y |

**Note**
Oil is required in the pneumatic system for problem-free PSV operation.

| Ordering example: | Series | + | Pipe diameter | + | Pneumatic quick-action connector | = | Order No. |
|---|---|---|---|---|---|---|---|
| | 065.282.56 | + | 1/2" | + | 90° | = | 065.282.56.21.0A |

- 4-way nozzle holder V4 or 2-way nozzle holder V2 with pneumatic actuation for variable application rate control

## Advantages

- Operation optionally in “Vario” or “Select” mode
  – Vario: Fully-automatic control of nozzles/nozzle combination and continuously variable adaptation of the application rate and pressure
  – Select: Manual activation and deactivation of individual nozzles/ nozzle combinations
- V4 in modular design
- V2 in new more compact design with proven PSV valve technology (see Page 119)
- Single valve located directly in front of the nozzle
- Central liquid supply

**VarioSelect**
**4-way nozzle holder**
**(pneumatic quick-action connectors optional)**

**VarioSelect II**
**2-way nozzle holder**
**(pneumatic quick-action connectors optional)**

**Technical data:**

**Materials**
POM, POM fiber glass reinforced, EPDM, Viton, FPM, stainless steel

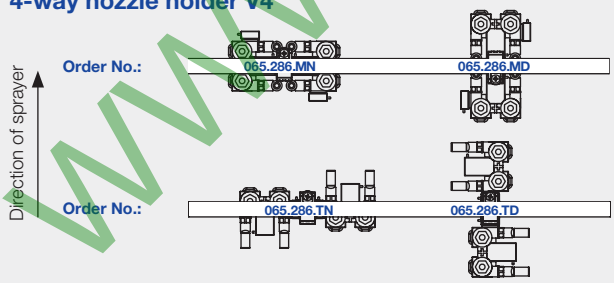
**Pressure range**
Max. 8 bar

**Emergency-stop function**
At air pressure below 4.5 bar

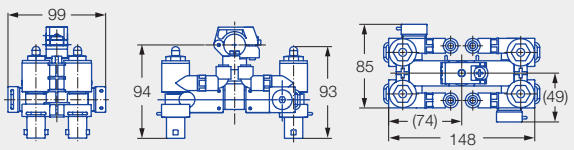
**Valve switching time**
0.2 s

| Order No. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baureihe | | | | | | Pipe diameter | | | | | Pneumatic quick-action connectors (optional) | | |
| | | | | | | 20 mm | 25 mm | 1/2", 22 mm | 3/4" | 1" | Standard | 90° | Y |
| V4 | 065.286 | MN | TN | MD | TD | 20 | 25 | 21 | 27 | 34 | B0 | A0 | Y0 |
| V2 | 065.284.56 | | | | | 20 | 25 | 21 | 27 | 34 | 0B | 0A | 0Y |

## 4-way nozzle holder V4

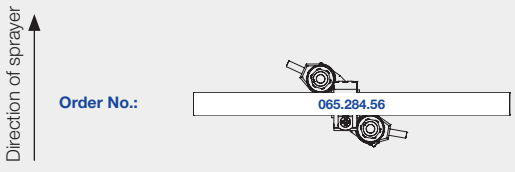



## Main dimensions of 4-way nozzle

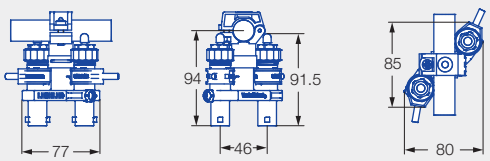



Dimensions in mm.

## 2-way nozzle holder V2



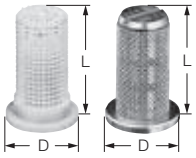
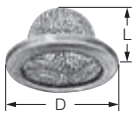
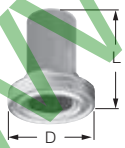

## Main dimensions of 2-way nozzle




Dimensions in mm.

| Ordering example: | Series | + | Pipe diameter | + | Pneumatic quick-action connector | = | Order No. |
|---|---|---|---|---|---|---|---|
| | V4 | + | 3/4" | + | 90° | = | 065.286.MN.27.A0 |
| | V2 | + | 1/2" | + | Y | = | 065.284.56.21.0Y |

# Ball check valves and nozzle strainers

| Designation | | Opening pressure [bar] | Mesh size | D [mm] | L [mm] | Material | Strainer area (without gaskets) | Order No. |
|---|---|---|---|---|---|---|---|---|
| **Ball check valves**[1] |  | 0.5 | **25 M** | 14.8 | 21.5 | POM | 628 mm² | **065.266.56.00** |
| | | 0.5 | **60 M** | 14.8 | 21.5 | POM | 628 mm² | **065.265.56.00** |
| | | 0.5 | **25 M** | 14.8 | 21.0 | Brass | 430 mm² | **065.261.30.00** |
| | | 0.5 | **60 M** | 14.8 | 21.0 | Brass | 430 mm² | **065.260.30.00** |
| | | 2.5 | **25 M** | 14.8 | 21.5 | POM | 628 mm² | **065.266.56.02** |
| | | 2.5 | **60 M** | 14.8 | 21.5 | POM | 628 mm² | **065.265.56.02** |
| **Ball check valve** (without strainer) |  | 0.5 | | 14.8 | 18.5 | POM | – | **065.266.56.01** |
| **Nozzle strainers**[1] |  | – | **25 M** | 14.8 | 21.5 | POM | 628 mm² | **065.256.56.00** |
| | | – | **60 M** | 14.8 | 21.5 | POM | 628 mm² | **065.257.56.00** |
| | | – | **80 M** | 14.8 | 21.5 | POM | 430 mm² | **A.424.310.5** |
| **Slotted strainer** |  | – | **25 M** | 14.8 | 21.0 | POM | 430 mm² | **095.009.56.13.43** |
| **Cup strainers** |  | – | **25 M** | 14.8 | 8.5 | Cu/Monel | 184 mm² | **065.252.26.00** |
| | | – | **25 M** | 14.8 | 8.5 | PA/Monel | 184 mm² | **200.029.26.00.03** |
| | | – | **60 M** | 14.8 | 8.5 | PA/Stainless | 184 mm² | **200.029.1C.01.03** |
| **Nozzle strainers** with integrated seal, for TWISTLOC |  | – | **25 M** | 18.0 | 19.2 | POM, Santoprene | 628 mm² | **065.269.7J** |
| | | – | **60 M** | 18.0 | 19.2 | POM, Santoprene | 628 mm² | **065.268.7J** |
| **Nozzle strainer** with integrated seal, for MULTIJET |  | – | **60 M** | 18.8 | 19.2 | POM, Santoprene | 628 mm² | **065.268.7J.10** |

[1] Important: Color coding for strainers and check valves according to ISO 19732:2007 (see Page 7).

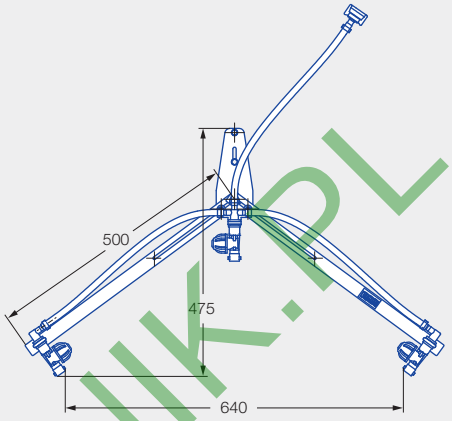
# Spray frame

- 3-nozzle fork for uniform spraying and penetration of row crops

## Advantages

- Variable nozzle equipment, e.g. with twin (IDKT at top) and flat spray nozzles (IDK at sides)
- Uniform wetting and crop penetration at the sides and from above
- Flexible adaptation to individual crops by adjustable spray arms
- Robust, wear-resistant spray arm design in stainless steel
- Problem-free assembly on every spray boom

Dimensions in mm.




**Application:**

**Plant protection products** **Strawberries**

**Technical data:**

**Opening angle**
Spray arms:
55°–107°

**Materials**
Stainless steel, PA

**Pressure range**
Max. 8 bar

## Calculation example

1.000 l/ha, 4 km/h, row spacing 0.9 m
The **total nozzle output** of a spray frame for area treatment:

$$\frac{\textbf{1.000 (l/ha) x 4 (km/h) x 0.9 (m)}}{\textbf{600}} = \textbf{6.0 l/min}$$

With three nozzles of the same size/series, the flow rate per nozzle is as follows:
**6.0 l/min : 3 = 2.0 l/min**

## Recommendation

IDKT 05 (top) at 3.0 bar
IDKS 80-06 (lateral) at 3.0 bar

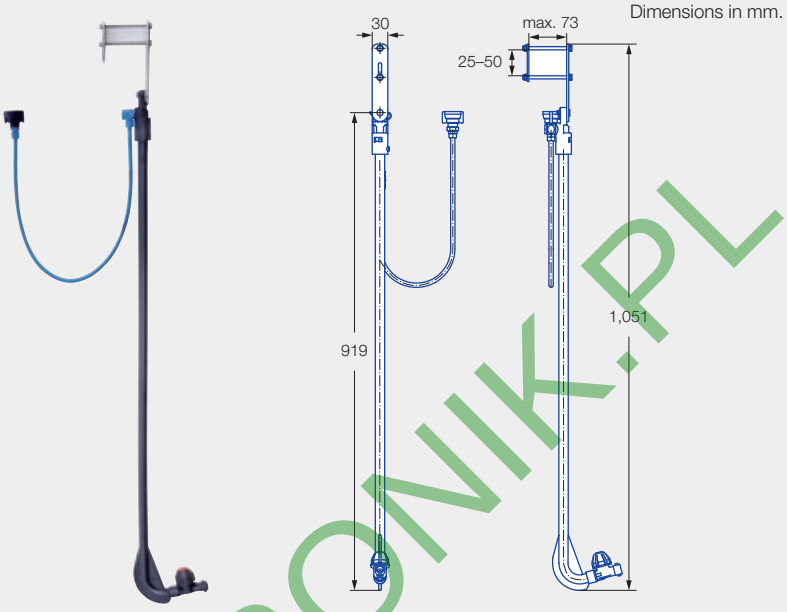
**Order No. 092.165.00**
**Scope of delivery:** spray frame without nozzles, nozzle strainer, gaskets and bayonet caps

# Dropleg[UL]

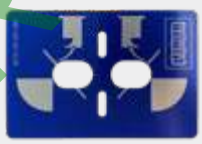
- Underleaf spraying system for broadcast and row applications

## Advantages

- Fits all booms
- Gentle on plants since hangs freely at right angles to plant row
- Less weather-dependent use due to low-drift application on crop
- Optimum plant protection product deposition at the sides and from below on leaf undersides and stalks
- Variable nozzle equipment with plant protection and liquid fertilizer nozzles
- Robust, light and flexible – only approx. 400 g




G 1994



**Adjustment template**
Order No. **092.163.42.10.30**

Nozzle equipment with:
FT 140/FT 90, IDKT, DF, FL, TwinSprayCap
- ID-120
- IDK 120/IDK 90 / IDKN 120
- LU 120/LU 90
- FT 140/FT 90

**Application:**

**Plant protection products and growth regulators**

**Vegetable growing**

**Liquid fertilizer delivery**

**Technical data:**

**Materials**
POM fiber glass reinforced, PP, PA, stainless steel

**Pressure range**
Max. 8 bar

**Nozzle calculator app**

| Description | | Order No. |
|---|---|---|
| **TwinSprayCap,** MULTIJET system, for flood nozzles |  | 092.163.56.10 |
| **Nozzle strainer 60 M** |  | 065.257.56.00 |
| **MULTIJET Y connector**[1] 45° forward angling of nozzle |  | Y.823.001.80.00.00 |
| **MULTIJET bayonet cap 1/4" NPT female** |  | A.402.910.01 |
| **Double nipple G 1/4 male** |  | 095.019.30.00.42 |
| **Double swivel nozzle holder G 1/4 female**[1] Freely adjustable nozzle position |  | A.404.172 |
| **Y-kit for row application** |  | 092.176.00.00.00 |

[1] For standard + Dropleg[UL] application.

For further application information, see Page 69.

**Order No. 092.171.56.00**
**Scope of delivery:** pre-assembled without nozzles, nozzle strainer, gaskets and bayonet cap

# MULTIJET, MultiCap
## Nozzle holders and bayonet caps

| Nozzle holder | Designation | Material | Order No. |
|---|---|---|---|
|  | **5-way nozzle holder with diaphragm check valve** with eyelet connector | | |
| | for 1/2" pipes | Polyamide (PA) | **A.406.494.7** |
| | for 3/4" pipes | Polyamide (PA) | **A.406.495.7** |
| | for 1" pipes | Polyamide (PA) | **A.406.496.7** |
|  | **4-way nozzle holder with diaphragm check valve** with eyelet connector | | |
| | for 20 mm pipes | Polyamide (PA) | **A.406.472.71** |
| | for 1/2" pipes | Polyamide (PA) | **A.406.474.7** |
| | for 3/4" pipes | Polyamide (PA) | **A.406.475.7** |
| | for 1" pipes | Polyamide (PA) | **A.406.476.7** |
|  | **3-way nozzle holder with diaphragm check valve** with eyelet connector | | |
| | for 20 mm pipes | Polyamide (PA) | **A.406.422.71** |
| | for 1/2" pipes | Polyamide (PA) | **A.406.424.7** |
| | for 3/4" pipes | Polyamide (PA) | **A.406.425.7** |
| | for 1" pipes | Polyamide (PA) | **A.406.426.7** |
|  | **3-way nozzle holder with diaphragm check valve** with eyelet connector | | |
| | for 1/2" pipes | Polyamide (PA) | **A.401.274.7** |
| | for 3/4" pipes | Polyamide (PA) | **A.401.275.7** |
| | for 1" pipes | Polyamide (PA) | **A.401.276.7** |
|  | **Single nozzle holder with diaphragm check valve** with eyelet connector | | |
| | for 20 mm pipes | Polyamide (PA) | **A.402.725** |
| | for 1/2" pipes | Polyamide (PA) | **A.402.745** |
| | for 25 mm pipes | Polyamide (PA) | **A.402.75A.5** |
| | for 3/4" pipes | Polyamide (PA) | **A.402.755** |
| | for 1" pipes | Polyamide (PA) | **A.402.765** |

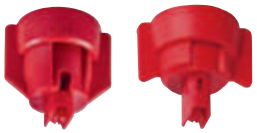
**Technical data:**

**Materials**
Stainless steel, PA

**Pipe diameter in mm:**

| | |
|---|---|
| 1/2" | 21 mm |
| 3/4" | 27 mm |
| 1" | 34 mm |

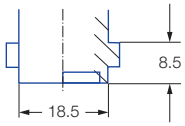
| MultiCap fiber glass reinforced | Designation | Color code | Order No. |
|---|---|---|---|
| On request completely assembled with IDK/IDKN/IDKT | **Bayonet cap with SW 8**<br>• Suitable for MULTIJET bayonet system incl. gasket (**A.402.200.04**)<br>• POM fiber glass reinforced<br>• Long side optimally fixes IDK/IDKN/IDKS/IDKT nozzles<br>• Best possible protection of nozzle against damage and breakage<br>• Smaller exposed area at the side of the nozzle<br>• Optimum nozzle fit and alignment | yellow | **092.164.56.10.00** |
| | | lavender | **092.164.56.20.00** |
| | | blue | **092.164.56.30.00** |
| | | red | **092.164.56.40.00** |
| | | brown | **092.164.56.50.00** |
| | | black | **092.164.56.60.00** |



MultiCap with IDK nozzle

Standard bayonet cap with IDK nozzle

# MULTIJET and non-Lechler origin
## Bayonet caps and adapters

| MULTIJET | Designation | | Color code | Order No. |
|---|---|---|---|---|
|   Labeling on request. | **Bayonet cap** incl. gasket **Y.G00.002.02.0** for combination with MULTIJET system, for example:    Dimensions in mm. | **Combi cap** for nozzles with 8 and 10 mm AF ID, IDK, IDKN, IDKT, AD, QS, LU, ST, DF, IS, IDKS, OC, E, FL, FS | red | Y.825.3C0.00.00.00.0 |
| | | | blue | Y.825.3C0.00.30.00.0 |
| | | | yellow | Y.825.3C0.00.10.00.0 |
| | | | lavender | Y.825.3C0.00.80.00.0 |
| | | | green | Y.825.3C0.00.20.00.0 |
| | | | brown | Y.825.3C0.00.70.00.0 |
| | | | black | Y.825.3C0.00.40.00.0 |
| | | | gray | Y.825.3C0.00.90.00.0 |
| | | | white | Y.825.3C0.00.50.00.0 |
| | | **Fiber glass reinforced version** | | |
| | | AF 8 | black | A.402.900.01.A |
| | | AF 10 | black | A.402.902.01.A |
| | | for hollow cone nozzles TR, ITR, FT, BN hose shanks | black | A.402.904.10 |
| | | for flood nozzles FT | blue | A.402.908.4 |
| | | Bayonet cap 1/4" NPT female | black | A.402.910.01 |
| | | Shut-off cap | black | A.402.909 |

| Non-Lechler origin | Designation | | Color code | Order No. |
|---|---|---|---|---|
| Bayonet cap Type H  | System: – **Hardi** incl. gasket (8/10 mm AF: **095.015.73.06.36**) | **Combi cap** for nozzles with 8 and 10 mm AF ID, IDK, IDKN, IDKT, AD, QS, LU, ST, DF, IS, IDKS, OC, E, FL, FS | black | 090.078.56.00.40.1 |
| | **Molded gasket** (in combination with nozzle strainer **065.256.56** or **065.257.56**, see Page 121) | | | 095.015.7J.04.34 |
| Bayonet cap Type R  | System: – **Rau** incl. gasket (**095.015.73.04.61**) from year of manufacture 2000 See bayonet cap MULTIJET above | for nozzles with size 8 mm AF IDK, IDKN, IDKT, AD, QS, LU, ST, IDKS, OC, E | red | 095.016.56.05.90 |
| | | for nozzles with size 10 mm AF ID, DF, IS, FL, FS | lavender | 095.016.56.05.97 |

### Intermediate and extension adapter

**Intermediate adapter**[1]

Lechler TWISTLOC system
**092.163.56.00.22.1**
Extension: 22 mm

Rau system
**092.163.56.00.21.0**
Extension: 20 mm

Hardi system
**092.163.56.00.20.1**
Extension: 17 mm

**Extension adapter and bajonet nipple**[1]

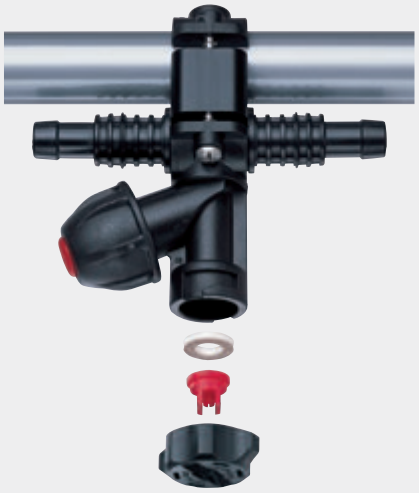
MULTIJET system
**092.163.56.00.23.1**
Extension: 32 mm

MULTIJET bayonet nipple
**092.163.56.00.26.0**
see Page 133

[1] Including gasket.

# TWISTLOC
## Nozzle holder

- Quick-change nozzle system
  (max. operating pressure 20.0 bar)



**Diaphragm check valve for hose connection**

**Diaphragm check valve for installation on pipelines**

**Diaphragm check valve with eyelet connector**
For 3/4" pipes
**065.272.56.KL**
For 1/2" pipes
**065.272.56.KH**

**Diaphragm check valve with threaded connection**
M 18 x 1.5
**065.272.56.HB**

**Hose connection single**
For pipe outside dia. 3/4"
(25–28 mm O.D.)
**065.274.56.KL**
For pipe outside dia. 1/2"
(20–22 mm O.D.)
**065.274.56.KH**

**Hose connection double**
For pipe outside dia. 3/4"
(25–28 mm O.D.)
**065.275.56.KL**
For pipe outside dia. 1/2"
(20–22 mm O.D.)
**065.275.56. KH**

**Nozzle strainer with molded gasket**
60 M
**065.268.7J** (Page 121)
25 M
**065.269.7J** (Page 121)

**Eyelet clamp**
For 1" pipes
**090.023.51.KA**
For 3/4" pipes
**090.013.51.KA**
For 1/2" pipes
**090.003.51.KA**

**Bayonet adapter with threaded connection**
M 18 x 1.5
**095.009.00.07.98**

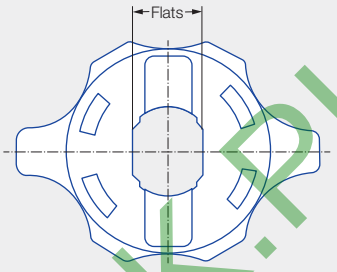
**Ball check valve**
Mesh size 60 M:
**065.265.56.00**
Mesh size 25 M:
**065.266.56.00**

**Bayonet cap**
Overview on Page 127

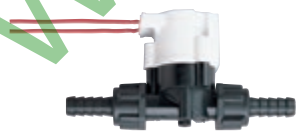
**Gasket**
**065.242.73**

# TWISTLOC
## Bayonet caps and solenoid valves

### Advantages
- Simple handling
- Ergonomic shape




| TWISTLOC | Designation | Color code | Order No. |
|---|---|---|---|
| (incl. gasket **065.242.73.00**) for combination with following systems[1]:<br>• Lechler<br>• Holder<br>• Amazone<br>• Schmotzer<br>• Brendecke<br>• Vogel & Noot | for nozzles with 8 mm AF<br>IDK, IDKN, IDKT, AD, QS, LU, ST, IDKS, OC, E | white | 065.204.56.05 |
| | | brown | 065.204.56.06 |
| | for nozzles with 8 and 10 mm AF<br>ID, IDK, IDKN, IDKT, AD, QS, LU, ST, DF, IS, IDKS, OC, E, FL, FS | red | 065.202.56.00 |
| | | black | 065.202.56.01 |
| | | yellow | 065.202.56.02 |
| | | green | 065.202.56.03 |
| | | blue | 065.202.56.04 |
| | | gray | 065.202.53.00 |
| **Round-hole bayonet cap** (incl. gasket **065.242.73.00**) | for TR, ITR, FT, BN hose shank | black | 065.202.56.11 |
| | for FT | dark-gray | 065.202.56.50 |
| **Shut-off cap** (incl. gasket **095.015.6C.02.85.0**) | | beige | 065.202.56.40 |

| Solenoid valve | Designation | Maximum pressure [bar] | Order No. |
|---|---|---|---|
|  | **Solenoid valve for TWISTLOC and MULTIJET nozzle holders** | | |
| | GDM 3-pin plug connection according to DIN 43650, power consumption: 0.8 A<br>Tightening torque at nozzle holder: 2.5 Nm | 8.0 | 065.277.56.00.00.0 |
|  | **Solenoid valve for hose connection, power consumption: 0.5 A** | | |
| | Hose dia. 10.0 mm | 10.0 | Z-Endvalve 10 |
| | Hose dia. 13.0 mm | 10.0 | Z-Endvalve 00 |
| | Spare part piston | | Z-E06011.00 |

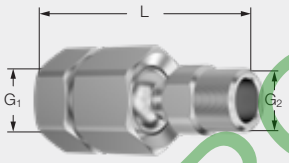
[1] Depending on series/type.

# Eyelet connectors
# Ball joints/swivel nozzle holders

## Eyelet connectors

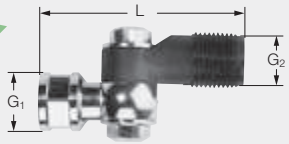

| Designation | Pipe dia. | Thread G | B [mm] | L [mm] | Material | Order No. |
|---|---|---|---|---|---|---|
| **Eyelet connector, single,** max. 10 bar, with stainless-steel screw | 3/8" | G 3/8 male | 41 | 49 | Polyamide | **090.053.51** |
| | 1/2" | G 3/8 male | 45 | 53 | Polyamide | **090.003.51** |
| | 3/4" | G 3/8 male | 51 | 57 | Polyamide | **090.013.51** |
| | 1" | G 3/8 male | 61 | 65 | Polyamide | **090.023.51** |

## Ball joints




| Designation | Thread $G_1$ | Thread $G_2$ | L [mm] | Material | Order No. |
|---|---|---|---|---|---|
| **Ball joint with threaded connection** max. 25 bar, full-swivel type max. 30° | G 3/8 female | G 3/8 male | 56 | Brass | **092.022.30 AF** |
| | G 1/2 female | G 1/2 female | 71 | Brass | **092.040.30 AH** |
| | G 3/4 female | G 3/4 female | 80 | Brass | **092.050.30 AL** |

## Swivel nozzle holders



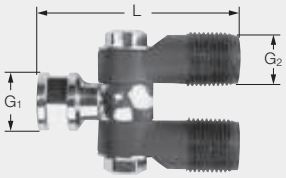

## Accessories for swivel nozzle


Threaded cap G 3/8


Gasket

| Designation | Thread $G_1$ | Thread $G_2$ | L [mm] | Material | Accessories | Order No. |
|---|---|---|---|---|---|---|
| **Swivel nozzle holder** max. 20 bar, swivel function in one plane | G 1/4 male | G 3/8 male | 35 | Polyamide | | **095.016.56.07.22** |
| | 1/4" NPT female | G 3/8 male | 35 | Polyamide | | **095.016.56.07.21** |
| | | | – | POM | incl. threaded cap G 3/8 | **065.200.56** |
| | | | – | Rubber | incl. gasket | **065.240.73.00** |

## Double swivel nozzle holders




## Accessories for double swivel


Threaded cap G 3/8


Gasket

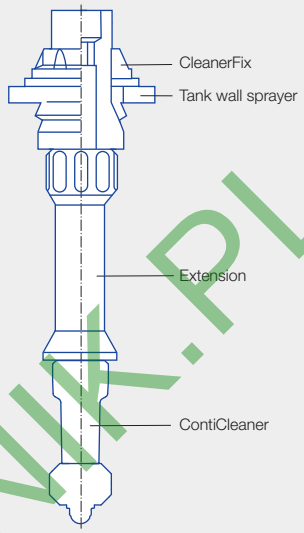
| Designation | Thread $G_1$ | Thread $G_2$ | L [mm] | Material | Accessories | Order No. |
|---|---|---|---|---|---|---|
| **Double swivel nozzle holder** max. 20 bar | 1/4" NPT female | G 3/8 male | 35 | Polyamide | | **095.016.56.07.20** |
| | | | – | POM | incl. threaded cap G 3/8 | **065.200.56** |
| | | | – | Rubber | incl. gasket | **065.240.73.00** |

## CleanerFix

- For tank installation from outside
- Suitable for ContiCleaner and other cleaning nozzles

CleanerFix

Extension




| CleanerFix | Order No. |
|---|---|
| For installation of cleaning nozzles without entering the tank.<br><br>For simple, fast and safe exchange of cleaning nozzles in the tank. | 050.050.56.00.00.0 |
| Extension for CleanerFix<br>approx. 9.5 cm | 050.050.53.10.00 |

For more information on the ContiCleaner, see Page 113.

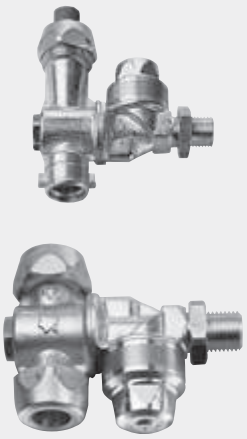
## Installation

Installation can be performed in just a few simple steps.
Our video instructions show the individual steps.

**Installation video**
**www.lechler.com/de-en/medialibrary**
Or simply scan the QR code.

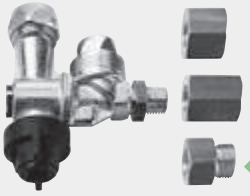
# Diaphragm nozzle holder for air-assisted sprayers, Assembly accessories, Relocation kit

## Diaphragm nozzle holder



| Designation | Material | Order No. |
|---|---|---|
| Bayonet diaphragm nozzle holder<br>incl. threaded cap and bayonet cap<br>Opening pressure: 0.7 bar<br>Closing pressure: 0.7 bar<br>Max. working pressure: 25 bar | | |
| G 1/4 male | Brass | **Z.TRA.EGE.RK.OM.B** |
| Diaphragm nozzle holder<br>incl. 2 threaded caps<br>Opening pressure: 1.1 bar<br>Closing pressure: 0.9 bar<br>Max. working pressure: 40 bar | | |
| G 1/4 male | Brass | **095.016.30.09.61.0** |
| G 1/4 female | Brass | **095.016.30.09.62.0** |

## Assembly accessories



| Designation | Material | Order No. |
|---|---|---|
| Reduction socket<br>M 18 x 1,5 female / G 1/4 female | Brass | **095.016.30.12.80.0** |
| Reduction socket<br>G 3/8 female / G 1/4 female | Brass | **095.019.30.00.23** |
| Reduction coupling<br>G 3/8 male / G 1/4 female | Brass | **065.221.30** |

## Relocation kit

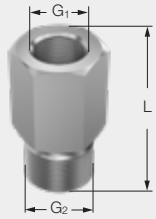
| Description | Order No. |
|---|---|
| **Variable row adaptation (e.g. corn 0.75 m row spacing) with relocation kit**<br>Installation on wet boom<br>1/2" (20–22 mm)<br>3/4" (25–28 mm) on request | **092.174.00.00.00.0** |

## Good to know

You can find further information and our assembly instructions here:
**www.lechler.com/de-en/support**

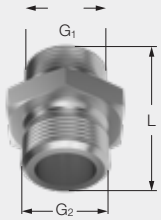
# Sockets
# Double nipples
# Threaded caps

## Sockets



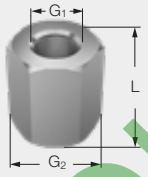

| $G_1$ | $G_2$ | L [mm] | Material | Order No. |
|---|---|---|---|---|
| G 1/8 female | G 3/8 male | 20 | Brass | 040.211.30 |
| G 1/4 female | G 3/8 male | 23 | Brass | 065.221.30 |
| G 1/4 female | G 3/8 male | 36[1] | Brass | 065.228.30.00.00.1 |
| G 3/8 female | G 3/8 male | 28 | Brass | 065.220.30 |
| M 11 x 1 female | G 3/8 male | 36[1] | Brass | 065.222.30 |
| G 3/4 female | G 3/4 male | 35 | Brass | 065.620.30 |
| G 3/8 female | M 18 x 1.5 male | 28 | Galvanized | 095.016.02.03.43 |

## Double nipples



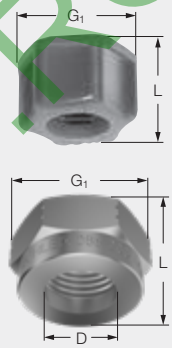

| $G_1$ | $G_2$ | L [mm] | Material | Order No. |
|---|---|---|---|---|
| G 1/4 male | G 1/4 male | 27 | Brass | 095.019.30.00.42 |
| G 1/4 male | G 3/8 male | 25 | Brass | 065.215.30 |
| G 1/4 male | G 3/8 male | 35[1] | Brass | 065.215.30.02 |
| G 3/8 male | G 3/8 male | 25 | Brass | 065.211.30 |
| M 11 x 1 male | G 3/8 male | 36[1] | Brass | 065.213.30 |
| G 3/4 male | G 3/4 male | 35 | Brass | 065.611.30 |

## Reducing couplers




| $G_1$ | $G_2$ | L [mm] | Material | Order No. |
|---|---|---|---|---|
| M 18 x 1.5 female | G 1/4 female | 21 | Brass | 095.016.30.12.80 |
| G 3/8 female | G 1/4 female | 26 | Brass | 095.019.30.00.23 |

## Threaded caps




| $G_1$ | D [mm] | L [mm] | AF [mm] | Material | Order No. |
|---|---|---|---|---|---|
| M 18 x 1.5 female | 13.0 | 18 | [2] | Polyamide | 095.011.51.00.21 |
| G 3/8 female | 12.8 | 13 | 22 | Stainless | 065.200.16 |
| G 3/8 female | 12.8 | 13 | 22 | Brass | 065.200.30 |
| G 3/8 female | 12.8 | 13 | 22 | POM | 065.200.56 |
| G 3/4 female | 20.1 | 16 | 32 | Brass | 065.600.30 |
| Gasket for threaded cap M 18 x 1.5 16 x 10 x 2.5 | | | | Rubber | 090.020.73.00.03 |
| Gasket for threaded cap 3/8" 11 x 15 x 1.6 | | | | Rubber | 065.240.73 |
| Gasket for threaded cap 3/4" 18 x 24 x 1.0 | | | | EWP | 065.640.72 |

[1] Installation of nozzle strainers and ball check valves possible (see Page 121).
[2] Wing nut.

## Hose shank

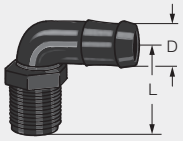
Suitable for threaded cap
**065.200.XX** (Page 131)
or round-hole bayonet cap
**065.202.56.11** (Page 127),
**A.402.904.10** (Page 125)


| Maximum pressure [bar] | Hose dia. D [mm] | L [mm] | Material | Order No. |
|---|---|---|---|---|
| 10 | 12 | 34 | PA | 095.016.56.07.49 |

## Hose shanks with male thread


| Thread | Maximum pressure [bar] | Hose dia. D [mm] | L [mm] | Material | Order No. |
|---|---|---|---|---|---|
| G 3/8 | 25 | 11 | 35 | Brass | 095.016.30.07.67 |
| G 1/2 | 25 | 11 | 40 | Brass | 095.016.30.07.68 |
| 1/4" NPT | 10 | 10 | 54 | PP | BHB025038 |
| 3/8" NPT | 10 | 13 | 66 | PP | BHB038050 |
| 1/2" NPT | 10 | 13 | 68 | PP | BHB050 |
| 3/4" NPT | 10 | 19 | 74 | PP | BHB075 |
| 3/4" NPT | 10 | 25 | 76 | PP | BHB075100 |
| 1" NPT | 10 | 25 | 80 | PP | BHB100 |
| 1" NPT | 10 | 32 | 90 | PP | BHB100125 |
| 1 1/4" NPT | 10 | 30 | 90 | PP | BHB125 |
| 1 1/4" NPT | 10 | 25 | 81 | PP | BHB125100 |
| 1 1/2" NPT | 10 | 37 | 104 | PP | BHB150 |
| 2" NPT | 10 | 36 | 107 | PP | BHB200150 |
| 2" NPT | 10 | 49 | 115 | PP | BHB200 |
| G 2 | 6 | 60 | 134 | PVC | 095.016.50.05.73 |
| 3" NPT | 10 | 75 | 160 | PP | BHB300 |

## Hose shanks with 90° angle




| Thread | Maximum pressure [bar] | Hose dia. D [mm] | L [mm] | Material | Order No. |
|---|---|---|---|---|---|
| 1/4" NPT | 10 | 6 | 35 | PP | BHB02590 |
| 3/8" NPT | 10 | 10 | 36 | PP | BHB03890 |
| 1/2" NPT | 10 | 10 | 36 | PP | BHB05003890 |
| 1/2" NPT | 10 | 12 | 38 | PP | BHB05090 |
| 1/2" NPT | 10 | 20 | 41 | PP | BHB05007590 |
| 3/4" NPT | 10 | 12 | 42 | PP | BHB07505090 |
| 3/4" NPT | 10 | 20 | 45 | PP | BHB07590 |
| 3/4" NPT | 10 | 25 | 48 | PP | BHB07510090 |
| 1" NPT | 10 | 20 | 50 | PP | BHB10007590 |
| 1" NPT | 10 | 25 | 53 | PP | BHB10090 |
| 1" NPT | 10 | 32 | 56 | PP | BHB10012590 |
| 1 1/4" NPT | 10 | 25 | 53 | PP | BHB12510090 |
| 1 1/4" NPT | 10 | 32 | 56 | PP | BHB12590 |
| 1 1/2" NPT | 10 | 40 | 63 | PP | BHB15090 |
| 2" NPT | 10 | 50 | 64 | PP | BHB20090 |
| 3" NPT | 10 | 75 | 113 | PP | BHB30090 |

## Hose shanks with threaded cap


| Thread | Maximum pressure [bar] | Hose dia. D [mm] | L [mm] | Material | Order No. |
|---|---|---|---|---|---|
| G 1/2 | 25 | 11 | 42 | Brass | 095.016.30.06.41 |
| G 1/2 | 25 | 13 | 42 | Brass | 095.016.30.06.42 |
| G 1 1/4 | 10 | 30 | 77 | PP | 095.016.53.07.47 |
| G 1 1/2 | 10 | 40 | 67 | PP | 095.016.53.07.48 |
| G 2 | 6 | 50 | 70 | PP | A.100.750 |

## MULTIJET Bayonet nipple incl. gasket

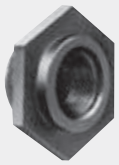
Suitable for ISO dosing orifices (see Page 93).


| Maximum pressure [bar] | Hose dia. D [mm] | L [mm] | Material | Order No. |
|---|---|---|---|---|
| 10 | 12 | 65 | PP | 092.163.56.00.26.0 |

## Double nipples

| Connection/thread | Order No. |
|---|---|
| 1/2" NPT male | BNIP050-SH |
| 3/4" NPT male | BNIP075-SH |
| 1" NPT male | BNIP100-SH |
| 1 1/4" NPT male | BNIP125-SH |
| 1 1/2" NPT male | BNIP150-SH |
| 1 1/2" NPT male, Length: 4" | BNIP150-4 |
| 2" NPT male | BNIP200-SH |
| 2" NPT male, Length: 4" | BNIP200-4 |
| 3" NPT male | BNIP300-SH |

## Reducing couplers



| Connection/thread | Order No. |
|---|---|
| 1/2" NPT male x 3/8" NPT female | BRB050-038 |
| 3/4" NPT male x 1/4" NPT female | BRB075-025 |
| 3/4" NPT male x 1/2" NPT female | BRB075-050 |
| 1" NPT male x 3/4" NPT female | BRB100-075 |
| 1 1/4" NPT male x 3/4" NPT female | BRB125-075 |
| 1 1/4" NPT male x 1" NPT female | BRB125-100 |
| 1 1/2" NPT male x 3/4" NPT female | BRB150-075 |
| 1 1/2" NPT male x 1" NPT female | BRB150-100 |
| 1 1/2" NPT male x 1 1/4" NPT female | BRB150-125 |
| 2" NPT male x 3/4" NPT female | BRB200-075 |
| 2" NPT male x 1" NPT female | BRB200-100 |
| 2" NPT male x 1 1/4" NPT female | BRB200-125 |
| 2" NPT male x 1 1/2" NPT female | BRB200-150 |
| 3" NPT male x 1 1/2" NPT female | BRB300-150 |
| 3" NPT male x 2" NPT female | BRB300-200 |

## Reducers

| Connection/thread | Order No. |
|---|---|
| 1" NPT female x 3/4" NPT female | BRC100-075 |
| 1 1/2" NPT female x 1" NPT female | BRC150-100 |
| 1 1/2" NPT female x 1 1/4" NPT female | BRC150-125 |
| 2" NPT female x 1" NPT female | BRC200-100 |
| 2" NPT female x 1 1/4" NPT female | BRC200-125 |
| 2" NPT female x 1 1/2" NPT female | BRC200-150 |
| 3" NPT female x 2" NPT female | BRC300-200 |

## Taper nipples

| Connection/thread | Order No. |
|---|---|
| 1/2" NPT male x 3/4" NPT male | BRN075-050 |
| 1/2" NPT male x 1" NPT male | BRN100-050 |
| 3/4" NPT male x 1" NPT male | BRN100-075 |
| 3/4" NPT male x 1 1/4" NPT male | BRN125-075 |
| 1" NPT male x 1 1/4" NPT male | BRN125-100 |
| 1" NPT male x 1 1/2" NPT male | BRN150-100 |
| 1 1/4" NPT male x 1 1/2" NPT male | BRN150-125 |
| 1 1/4" NPT male x 2" NPT male | BRN200-125 |
| 1 1/2" NPT male x 2" NPT male | BRN200-150 |
| 2" NPT male x 3" NPT male | BRN300-200 |

## Blanking plugs

| Connection/thread | Order No. |
|---|---|
| 3/4" NPT male | BPLUG075 |
| 1" NPT male | BPLUG100 |
| 1 1/2" NPT male | BPLUG150 |
| 2" NPT male | BPLUG200 |

## Couplers

| Connection/thread | Order No. |
|---|---|
| 1/2" NPT female | BCPLG050 |
| 3/4" NPT female | BCPLG075 |
| 1" NPT female | BCPLG100 |
| 1 1/4" NPT female | BCPLG125 |
| 1 1/2" NPT female | BCPLG150 |
| 2" NPT female | BCPLG200 |
| 3" NPT female | BCPLG300 |

## Tees

## 45° elbows

## 90° elbows

## Crosses

| Connection/thread | Order No. |
|---|---|
| 3/8" NPT female | BTEE038 |
| 1/2" NPT female | BTEE050 |
| 3/4" NPT female | BTEE075 |
| 1" NPT female | BTEE100 |
| 1 1/4" NPT female | BTEE125 |
| 1 1/2" NPT female | BTEE150 |
| 2" NPT female | BTEE200 |
| 3" NPT female | BTEE300 |
| 3/4" NPT female x 3/4" NPT male | BSL075-45 |
| 1" NPT female x 1" NPT male | BSL100-45 |
| 1 1/4" NPT female x 1 1/4" NPT male | BSL125-45 |
| 1 1/2" NPT female x 1 1/2" NPT male | BSL150-45 |
| 2" NPT female x 2" NPT male | BSL200-45 |
| 3" NPT female x 3" NPT male | BSL300-45 |
| 3/8" NPT female x 3/8" NPT female | BEL038-90 |
| 1/2" NPT female x 1/2" NPT female | BEL050-90 |
| 3/4" NPT female x 3/4" NPT female | BEL075-90 |
| 1" NPT female x 1" NPT female | BEL100-90 |
| 1 1/4" NPT female x 1 1/4" NPT female | BEL125-90 |
| 1 1/2" NPT female x 1 1/2" NPT female | BEL150-90 |
| 2" NPT female x 2" NPT female | BEL200-90 |
| 3" NPT female x 3" NPT female | BEL300-90 |
| 3/8" NPT female x 3/8" NPT male | BSL038-90 |
| 1/2" NPT female x 1/2" NPT male | BSL050-90 |
| 3/4" NPT female x 3/4" NPT male | BSL075-90 |
| 1" NPT female x 1" NPT male | BSL100-90 |
| 1 1/4" NPT female x 1 1/4" NPT male | BSL125-90 |
| 1 1/2" NPT female x 1 1/2" NPT male | BSL150-90 |
| 2" NPT female x 2" NPT male | BSL200-90 |
| 3" NPT female x 3" NPT male | BSL300-90 |
| 3/4" NPT female | BCR075 |
| 1" NPT female | BCR100 |
| 1 1/4" NPT female | BCR125 |
| 1 1/2" NPT female | BCR150 |
| 2" NPT female | BCR200 |



See Page 15 for more information on thread table.
Other thread sizes on request.

# Manifold flange system

## Manifold flange system parts

Full port = full continuity corresponding to connection

| Designation | Connection/thread | Order No. |
|---|---|---|
| Check valves | 1" | BMCV100 |
| | 2", full port | BMCV220 |
| | 3", full port | BMCV 300 |
| Straight flanges | 1" x 1" flange | BM100CPG |
| | 2" x 2" full port flange | BM220CPG |
| | 3" x 3" full port flange x 4" long | BM300CPG |
| | 2" x 2" full port flange x 6" long | BM220CPG6 |
| | 3" x 3" full port flange x 7" long | BM300CPG7 |
| 45° flanges | 1" x 1" 45° flange | BM100CPG45 |
| | 2" x 2" 45° full port flange | BM220CPG45 |
| | 3" x 3" 45° full port flange | BM300CPG45 |
| 90° flanges | 1" x 1" 90° flange | BM100CPG90 |
| | 2" x 2" 90° full port flange | BM220CPG90 |
| | 3" x 3" 90° full port flange | BM2300CPG90 |
| 90° flanges "Sweep", (10 % more flow) | 2" 90° full port flange "Sweep" | BM220SWP90 |
| | 3" 90° flange "Sweep" | BM300SWP90 |
| Flange reducer couplings | 2" flange x 1" flange | BM200100CPG |
| | 2" full port flange x 1" flange | BM220100CPG |
| | 3" flange x 2" flange | BM300200CPG |
| | 3" flange x 2" full port flange | BM300220CPG |
| Flange tees | 1" | BM100TEE |
| | 2" | BM200TEE |
| | 2" full port flange x 2" | BM220200TEE |
| | 2" full port flange tee | BM220TEE |
| | 3" | BM300TEE |
| U-bolt (stainless steel) | 100 series | BUB100 |
| | 200 series | BUB202 |
| | 220 series | BUB220 |
| Adapter, flange – BSP thread | 1" flange x 1" BSP male | BM100BSP |
| | 2" full port flange x 2" BSP male | BM220BSP |
| | 3" full port flange x 3" BSP male | BM300BSP |
| Adapter, flange – NPT thread | 1" flange x 1" NPT male | BM100MPT |
| | 2" flange x 1 1/2" NPT male | BM200150MPT |
| | 2" full port flange x 2" NPT male | BM220MPT |
| | 3" flange x 3" NPT male | BM300MPT |
| Full porte | 1" flange x 1" FIXLOC | BM100A |
| | 2" full port flange x 2" FIXLOC | BM220A |
| | 3" full port flange x 3" FIXLOC | BM300A |
| Flanges – hose shank | 1" flange x 3/4" hose | BM100075BR |
| | 1" flange x 1" hose | BM100BRB |
| | 2" flange x 1 1/2" hose | BM200150BRB |
| | 2" full port flange x 1" hose | BM220100BR |
| | 2" full port flange x 1 1/4" hose | BM220125BR |
| | 2" full port flange x 1 1/2" hose | BM220150BR |
| | 2" full port flange x 2" hose | BM220BRB |
| | 3" flange x 2" hose | BM300220BR |
| | 3" flange x 3" hose | BM300BRB |

Full port = full continuity corresponding to connection

| Designation | Connection/thread | Order No. |
|---|---|---|
| Flanges – 90° hose shank | 1" flange x 3/4" hose | BM100075BRB90 |
| | 1" flange x 1" hose | BM100BRB90 |
| | 2" full port flange x 1 1/2" hose | BM220150BRB90 |
| | 2" full port flange x 2" hose | BM220BRB90 |
| | 3" flange x 2" hose | BM300220BRB90 |
| | 3" flange x 3" hose | BM300BRB90 |
| Flanges – 45° hose shank | 1" flange x 1" hose | BM100BRB45 |
| | 2" full port flange x 2" hose | BM220BRB45 |
| | 3" flange x 3" hose | BM300BRB45 |
| Flange crosses | 1" flange | BM100CR |
| | 2" full port flange | BM220CR |
| | 3" flange | BM300CR |
| Flange clamps (stainless steel) | 100 series | BFC100 |
| | 200 series | BFC200 |
| | 220 series (for full port) | BFC220 |
| | 300 series (for full port) | BFC300 |
| Flange gaskets (EPDM) | 1" with rib | BM101G |
| | 1 1/2" | B150G |
| | 2" with rib | BM201G |
| | 2" full port with rib | BM221G |
| | 3" with rib | BM301G |

## Ball valves

| Designation | Connection/thread | Maximum pressure [bar] | Opening | Order No. |
|---|---|---|---|---|
| 2-way valves (bolted, full port) | 1" | 10 | 1" | BMV100CF |
| | 2" | 10 | 2" | BMV220CF |
| | 3" | 7 | 3" | BMV300CF |
| Compact "Stubby" 2-way valves (full port) | 2" flange – FIXLOC male adapter | 7 | 2" | BMVSF220FP |
| | 2" flange – flange | 7 | 2" | BMVS220CF |
| | 3" flange – FIXLOC male adapter | 7 | 3" | BMVSF300FP |
| | 3" flange – flange | 7 | 3" | BMVS300CFFP |
| 3-way valves (bolted, full port) | 2" connection at bottom | 7 | 2" | BMV220BL |
| | 2" connection at front (closing not possible) | 7 | 2" | BMV220SL |
| | 3" connection at bottom | 7 | 3" | BMV300BL |

- Lever coupling system with NPT and BSP threads (BS21 and DIN EN 10226)

### Advantages

- Chemically resistant to agricultural chemicals and liquid fertilizers
- Corrosion-resistant stainless steel
- Easy handling
- Pressure:
- 1/2"–2" max. 9.0 bar
- 3" max. 5.0 bar

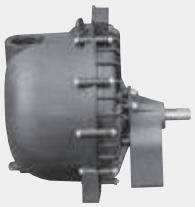
## FIXLOC system parts

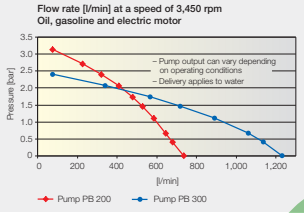
| Designation | Connection | Order No. |
|---|---|---|
| **Male adapter with female threads** straight version | 1/2" NPT female | **B050-A-NPT** |
| | 3/4" NPT female | **B075-A-NPT** |
| | 1" BSP female | **B100-A-BSP** |
| | 1 1/4" NPT female | **B125-A-NPT** |
| | 1 1/2" BSP female | **B150-A-BSP** |
| | 2" BSP female | **B200-A-BSP** |
| | 3" BSP female | **B300-A-BSP** |
| same but as 90° elbow | 1 1/2" NPT female | **B150-A 90°-NPT** |
| | 2" NPT female | **B200-A 90°-NPT** |
| **Male adapter with male threads** straight version | 1/2" NPT male | **B050-F-NPT** |
| | 3/4" NPT male | **B075-F-NPT** |
| | 1" BSP male | **B100-F-BSP** |
| | 1 1/4" NPT male | **B125-F-NPT** |
| | 1 1/2" BSP male | **B150-F-BSP** |
| | 2" BSP male | **B200-F-BSP** |
| | 3" NPT male | **B300-F-NPT** |
| | 3" BSP male | **B300-F-BSP** |
| same but as 90° elbow | 1 1/2" NPT male | **B150-F 90°-NPT** |
| | 2" NPT male | **B200-F 90°-NPT** |
| **Male adapter with hose shank** | 1/2" | **B050-E** |
| | 3/4" | **B075-E** |
| | 1" | **B100-E** |
| | 1 1/4" | **B125-E** |
| | 1 1/2" | **B150-E** |
| | 2" | **B200-E** |
| | 3" | **B300-E** |
| **Female coupler with female threads** straight version | 1/2" NPT female | **B050-D-NPT** |
| | 3/4" NPT female | **B075-D-NPT** |
| | 1" BSP female | **B100-D-BSP** |
| | 1 1/4" NPT female | **B125-D-NPT** |
| | 1 1/2" BSP female | **B150-D-BSP** |
| | 2" BSP female | **B200-D-BSP** |
| | 3" NPT female | **B300-D-NPT** |
| | 3" BSP female | **B300-D-BSP** |
| same but as 90° elbow | 1 1/2" NPT female | **B150-D 90°-NPT** |
| | 2" NPT female | **B200-D 90°-NPT** |

| Designation | Connection | Order No. |
|---|---|---|
| **Female coupler with male thread** | 1/2" NPT male | **B050-B-NPT** |
| | 3/4" NPT male | **B075-B-NPT** |
| | 1" BSP male | **B100-B-BSP** |
| | 1 1/4" NPT male | **B125-B-NPT** |
| | 1 1/2" BSP male | **B150-B-BSP** |
| | 2" BSP male | **B200-B-BSP** |
| | 3" NPT male | **B300-B-NPT** |
| | 3" BSP male | **B300-B-BSP** |
| **Female coupler with hose shank** straight version | 1/2" | **B050-C** |
| | 3/4" | **B075-C** |
| | 1" | **B100-C** |
| | 1 1/4" | **B125-C** |
| | 1 1/2" | **B150-C** |
| | 2" | **B200-C** |
| | 3" | **B300-C** |
| same but as 90° elbow | 1 1/2" | **B150-C 90°** |
| | 2" | **B200-C 90°** |
| **Plug for female coupler** | 1/2" | **B050-PL** |
| | 3/4" | **B075-PL** |
| | 1" | **B100-PL** |
| | 1 1/4" | **B125-PL** |
| | 1 1/2" | **B150-PL** |
| | 2" | **B200-PL** |
| | 3" | **B300-PL** |
| **Plug for male coupler** | 1/2" | **B050-CAP** |
| | 3/4" | **B075-CAP** |
| | 1" | **B100-CAP** |
| | 1 1/4" | **B125-CAP** |
| | 1 1/2" | **B150-CAP** |
| | 2" | **B200-CAP** |
| | 3" | **B300-CAP** |
| **Spare gasket for FIXLOC lever couplings EPDM** | 1/2" | **B075-G** |
| | 3/4" | **B075-G** |
| | 1" | **B100-G** |
| | 1 1/4" | **B100-G** |
| | 1 1/2" | **B150-G** |
| | 2" | **B200-G** |
| | 3" | **B300-G** |

**Note**
The following coupling types are compatible: 125 (1 1/4") with 100 (1") and 75 (3/4") and 50 (1/2").
For thread table, see Page 15.

## Pumps

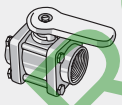


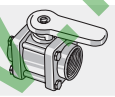


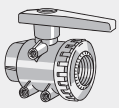

| Description | Connection | Order No. |
|---|---|---|
| Pump PB 200 with base (excl. motor) | 2" female | 095.016.00.07.82 |
| Pump PB 200 with three-phase a.c. motor | 2" BSP female | 095.016.00.08.02 |
| Pump PB 200 with hydraulic motor | 2" BSP female | 095.016.00.08.01 |
| Pump PB 200 with gasoline motor | 2" female | 095.016.00.07.81 |
| Pump PB 300 with base (excl. motor) | 3" BSP female | 095.009.00.12.21 |
| Pump PB 300 with three-phase a.c. motor | 3" BSP female | 095.009.00.12.20 |
| Pump PB 300 with hydraulic motor | 3" BSP female | 095.009.00.12.22 |

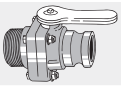
## Ball valves

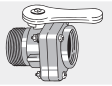
**2-way valve** (example)



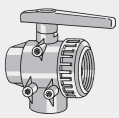








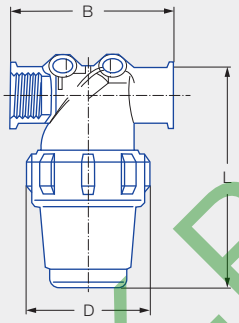
**3-way valve** (example)



| Type/Connector thread | Maximum pressure [bar] | Order No. |
|---|---|---|
| 2-way valve with NPT threads | | |
| 1/2" NPT female | 7 | BUV050FP |
| 3/4" NPT female | 7 | BUV075FP |
| 1" NPT female | 7 | BUV100FP |
| 1 1/4" NPT female | 7 | BUV125FP |
| 1 1/2" NPT female | 7 | BUV150FP |
| 2" NPT female | 7 | BUV200FP |
| 2-way valve with NPT threads | | |
| 1/2" NPT female | 10 | BV050 |
| 3/4" NPT female | 10 | BV075 |
| 1" NPT female | 10 | BV100 |
| 1 1/2" NPT female | 10 | BV150 |
| 2" NPT female | 10 | BV200 |
| 2-way valve with BSP threads | | |
| 3" BSP female | 7 | BV300-BSP |
| 3" BSP female | 7 | BV300FP-BSP |
| 2-way valve with G threads | | |
| G 1/2 female | 16 | A.454.132 |
| G 3/4 female | 16 | A.454.133 |
| G 1 female | 16 | A.454.134 |
| G 1 1/4 female | 10 | A.454.135 |
| G 1 1/2 female | 10 | A.454.136 |
| G 2 female | 10 | A.454.137 |
| 2-way valve with 2" FIXLOC male adapter and 2" NPT female | 7 | BVSF200 |
| 2-way valve with 2" FIXLOC male adapter and 2" NPT male | 7 | BVSFMT200 |
| 2-way valve with 2" NPT male and 2" female | 7 | BVSMT200 |
| 3-way valve with G threads | | |
| G 1 female | 16 | A.454.234 |
| G 1 1/4 female | 10 | A.454.235 |
| G 1 1/2 female | 10 | A.454.236 |
| G 2 female | 10 | A.454.237 |

# Line strainers

- Line strainers up to max. 14 bar
- Large-area strainer
- Strainer inserts color-coded in accordance with ISO 19732
- Mounting points on strainer housing




## Line strainer

**SGI female**

(Incl. strainer insert 50 M, blue)

| Max. flow rate [l/min] | Order No. | Connection | Dimensions [mm] | | | Order No. of strainer insert Mesh size[1] color code | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | B | D | L | 30 M | 50 M | 80 M | 100 M |
| 100 | **SGI 2** | G 1/2 female | 99 | 74 | 136 | **012.06** | **012.03** | **012.08** | **012.02** |
| 100 | **SGI 3** | G 3/4 female | 99 | 74 | 136 | **012.06** | **012.03** | **012.08** | **012.02** |
| 160 | **SGI 4** | G 1 female | 107 | 86 | 165 | **100.06** | **100.03** | **100.08** | **100.02** |
| 280 | **SGI 5** | G 1 1/4 female | 146 | 116 | 279 | **114.06** | **114.03** | **114.08** | **114.02** |
| 280 | **SGI 6** | G 1 1/2 female | 146 | 116 | 279 | **114.06** | **114.03** | **114.08** | **114.02** |

**SGA male**

(Incl. strainer insert 50 M, blue)

| Max. flow rate [l/min] | Order No. | Connection | Dimensions [mm] | | | Order No. of strainer insert Mesh size[1] color code | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | B | D | L | 30 M | 50 M | 80 M | 100 M |
| 100 | **SGA 2** | G 1/2 male | 99 | 74 | 136 | **012.06** | **012.03** | **012.08** | **012.02** |
| 100 | **SGA 3** | G 3/4 male | 99 | 74 | 136 | **012.06** | **012.03** | **012.08** | **012.02** |
| 160 | **SGA 4** | G 1 male | 112 | 86 | 165 | **100.06** | **100.03** | **100.08** | **100.02** |
| 280 | **SGA 5** | G 1 1/4 male | 146 | 116 | 279 | **114.06** | **114.03** | **114.08** | **114.02** |
| 280 | **SGA 6** | G 1 1/2 male | 146 | 116 | 279 | **114.06** | **114.03** | **114.08** | **114.02** |

[1] Please always specify the desired mesh size when ordering!

## SGI 6R

Version with additional connector
for strainer cleaning

| Max. flow rate [l/min] | Order No. | Connection | Dimensions [mm] | | | Order No. of strainer insert Mesh size[1] color code | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | B | D | L | 30 M | 50 M | 80 M | 100 M |
| 280 | SGI 6R | G 1 1/2 female | 146 | 116 | 353 | 114.06 | 114.03 | 114.08 | 114.02 |

## A.345.033/A.345.033.5

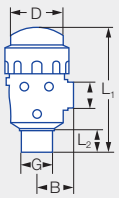
High-pressure strainer,
max. 50 bar,
made of fiber glass reinforced nylon

| Max. flow rate [l/min] | Order No. | Connection | Dimensions [mm] | | Order No. Strainer insert (incl.) |
|---|---|---|---|---|---|
| | | | D | L | |
| 150 | A.345.033 | G 1/2 female / G 3/4 female | 104 | 259 | 50 M |
| 150 | A.345.033.5 | G 1/2 female / G 3/4 female | 104 | 259 | 80 M |

| Designation | Order No. |
|---|---|
| Accessories for high-pressure strainer, 50 bar | |
| Plug G 1/2 | A.004.010.020 |
| Gasket for G 1/2 plug | A.403.000.060 |
| Plug G 3/4 | A.465.230.020 |
| Gasket for G 3/4 plug | A.465.005.140 |

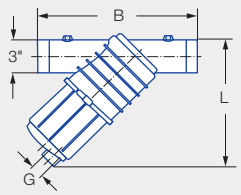
## Suction strainer

### A.316.172/A.316.173




| Max. flow rate [l/min] | Order No. | Connection | Dimensions [mm] | | | | Strainer insert Mesh size[1] color code |
|---|---|---|---|---|---|---|---|
| | | | B | D | $L_1$ | $L_2$ | |
| 220 | A.316.172 incl. strainer 30 M | G 2 male | 98 | 170 | 292 | 42 | 30 M A.316.002.030 |
| 220 | A.316.173 incl. strainer 50 M | G 2 male | 98 | 170 | 292 | 42 | 50 M A.316.003.030 |

### SGA2.300.53/SGA3.300.53



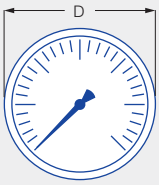

| Max. flow rate [l/min] | Order No. | Connection | Dimensions [mm] | | Strainer insert Mesh size[1] color code |
|---|---|---|---|---|---|
| | | | B | L | |
| 800 | SGA2.300.53 incl. strainer 30 M | G 3 male | 415 | 358 | 30 M 002.26 |
| 800 | SGA3.300.53 incl. strainer 50 M | G 3 male | 415 | 358 | 50 M 003.26 |

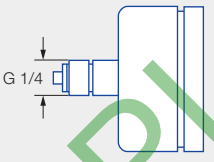
[1] Please always specify the desired mesh size when ordering!

- With 63 mm housing
- Scaling corresponds to EN 12761

## Advantages

- Easy to read thanks to expanded colored scale range
- Robust against mechanical loads
- Externally adjustable pressure mark




**63 mm housing**

| Display range [bar] | Overpressure range up to ... [bar] | Connection | Scale diameter D [mm] | Version/Order No. | | Strainer insert Mesh size[1] color code |
|---|---|---|---|---|---|---|
| | | | | Standard version | Liquid fertilizer-proof version | |
| 1.0–10.0 | 60.0 | rear | 63.0 | **095.009.00.11.37** | **095.009.00.11.35[2]** | 0.2 |

[1] Please always specify the desired mesh size when ordering!
[2] Clearance.

# Top Flow II
## Electromagnetic flow meter

- Display of overall volume and flow rate
- Temperature range -15 °C to +65 °C
- Measuring accuracy 99 %:
  1": 8–400 l/min
  2": 25–1,100 l/min
  3": 60–2,500 l/min
- Max. pressure: 10 bar at 20 °C

### Advantages
- Self-calibrating
- Independent of density and viscosity
- Simple and fast assembly via manifold and FIXLOC connection
- Suitable for UAN and plant protection products

Including the following manifold fittings:

**Manifold male adapter 1", 2" or 3" FP**

**Manifold clamp**

**Manifold gasket EPDM**

| Designation | Order No. |
|---|---|
| 1" | B.MFM.100.CO.M |
| 2" | B.MFM.220.CO.M |
| 3" | B.MFM.300.CO.M |

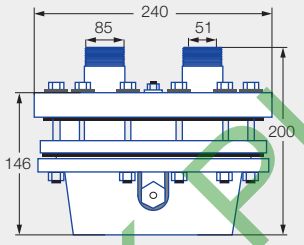
**Note**
Please observe the installation instructions.

# AirPress HP
## Pneumatic pressure regulator for boom sprayers

- Pressure regulation via pressure chamber with air pressure

### Advantages
- Large flow rate range
- Fast pressure regulation without delay
- Ideal in combination with automatic boom section and individual nozzle control
- Up to 10 bar spray pressure

Dimensions in mm.




| Technical data | Version 1 1/4" | Version 2" |
|---|---|---|
| Weight | 5.4 kg | 5.5 kg |
| Connections | G 1 1/4 male for inlet and outlet<br>1/4" BSP for air connection | G 2 male for inlet and outlet<br>1/4" BSP for air connection |
| Material | Nylon, polyethylene, stainless steel, NBR (optionally Viton), CR | |
| Pressure range | Max. 10 bar | |
| Pressure drop | Only 0.2 bar up to 100 l/min, approx. 0.5 bar for 250 l/min | |
| Max. flow rate | 250 l/min | 500 l/min |

| Designation | Order No. |
|---|---|
| 1 1/4" | **RC90.011.40.00.00** |
| 1 1/4" Viton | **RC90.0V1.14.00.00** |
| 2" | **RC90.020.00.00.00** |
| 2" Viton | **RC90.0V2.00.00.00** |

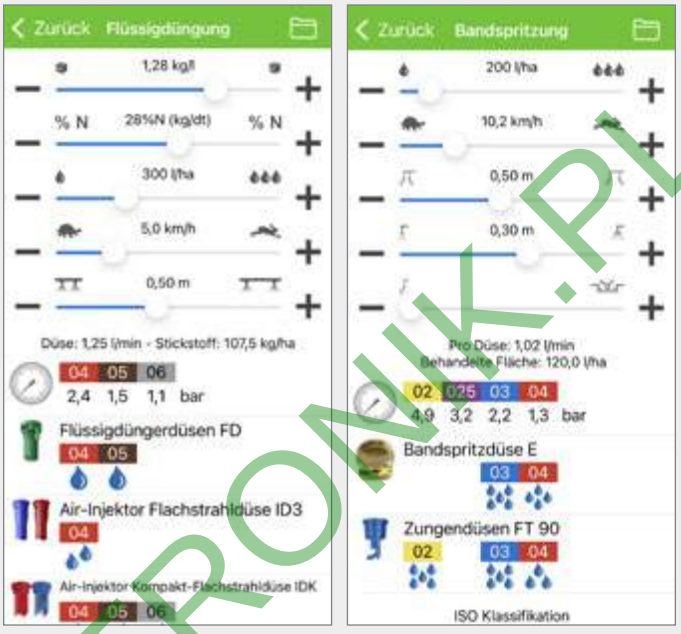
## Nozzle calculator app

Apple Android

The Lechler agricultural nozzle app makes it easy to select the right nozzle for your application.

On the basis of the selected sprayer speed and application rate, the nozzle shows you the suitable nozzles and corresponding droplet size categories. This allows you to quickly find the suitable Lechler nozzle and thus optimize your application.

All values are based on measurements with water.




## Anemometer Pocketwind IV

- Backlit display
- Waterproof and shockproof housing
- Lanyard
- Integrated hard cover for protection against damage and dirt
- Tripod thread

### Advantages

- Self-calibrating humidity sensor
- Hard cover protects measuring sensors against damage
- Measures all relevant application parameters

### Measuring functions

- – Relative humidity
  – Dew point
  – ΔT
  – Wet bulb thermometer
- Wind speed
  – Maximum
  – Average
  – Switchable units m/s, km/h, fpm, mph, kn and bft
- Temperature/wind chill units °C and °F, switchable
- Wind direction
  – Digital compass
  – Integrated wind vane


| Order No. |
| --- |
| Z.WIN.DME.SS.ER.010 |

## Droplet size calculator/ dosage calculator

Order No.: **095.009.50.12.11.4**

## Water-sensitive paper

Size: 76 x 26 mm
Order No.: **Z.WSP.76X.26.00.00.0**

## Nozzle cleaning brush

Order No.: **095.009.50.10.89.0**

## Nozzle aligner

Order No.: **065.231.02**

## Nozzle assembly wrench

Order No.: **092.164.40.00.99.0**

## Sample bag

Field crops
Order No.: **092.251.00.00.00.0 / 872585**

Viticulture, orchard and specialty crops
Order No.: **092.251.00.10.00.0 / 872586**

## Adjustment template for Dropleg[UL]

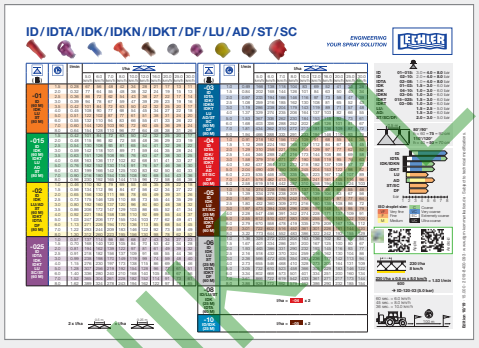
Order No.: **092.163.42.10.30**

## VR assembly tool

The Lechler VR assembly tool permits aligned installation of the VR stainless steel insert including gasket.
Order No.: **6VR.000.56.10.00.0**

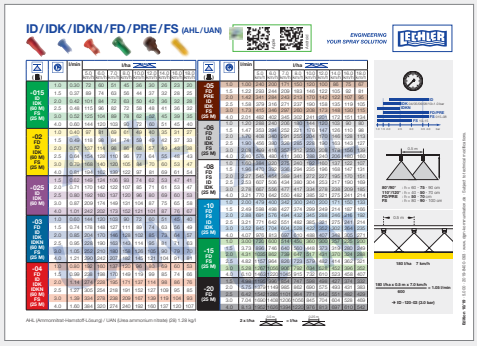
## Spray table for arable crops

DIN A4



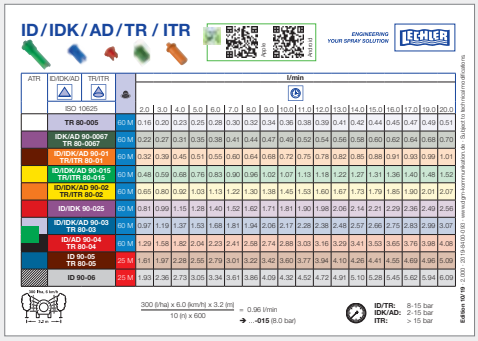

## Spray table for arable crops UAN

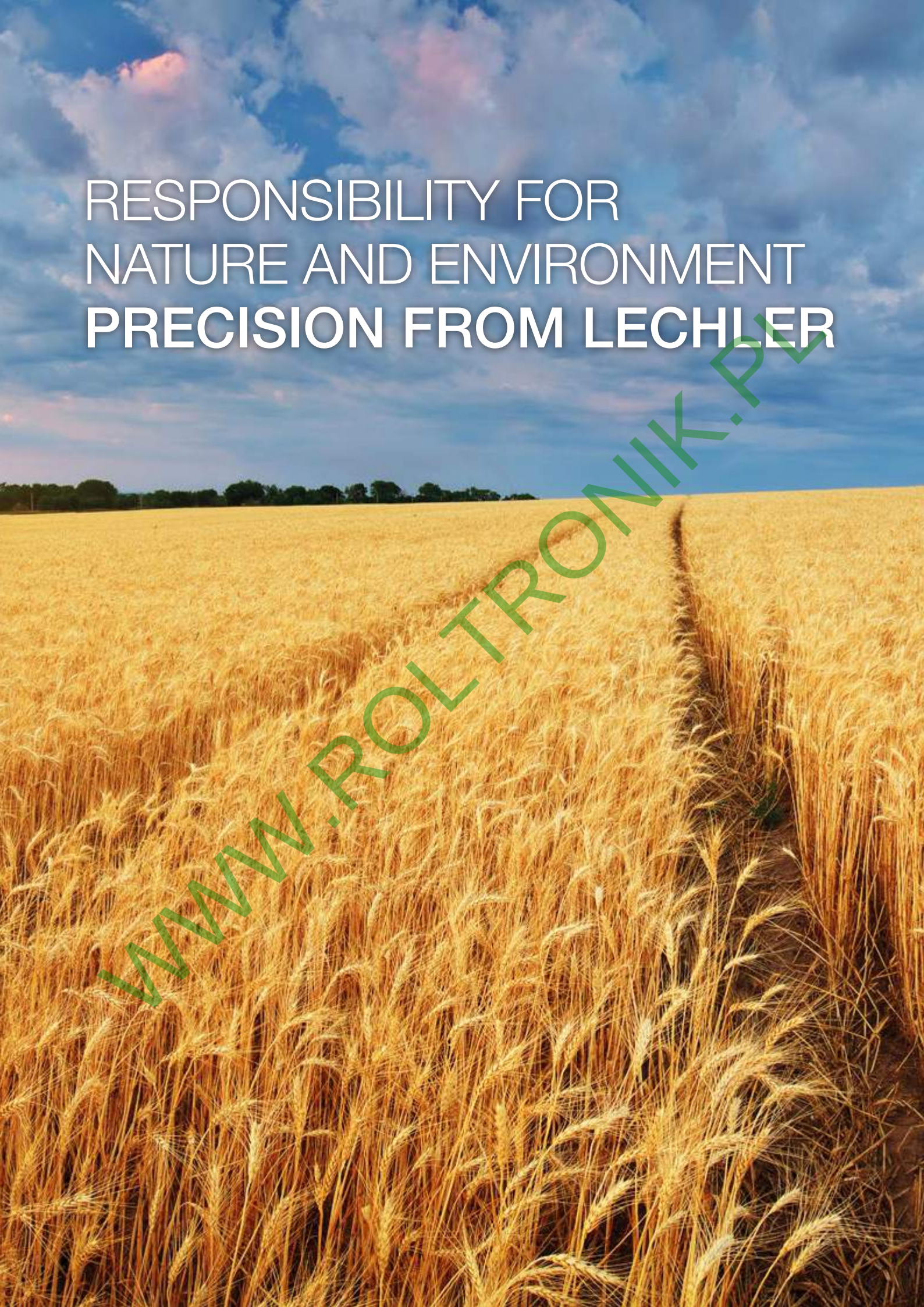
DIN A4




## Spray table for viticulture, orchard and specialty crops

DIN A5





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**Ulmer Strasse 128 · 72555 Metzingen, Germany · Phone +49 7123 962-0 · info@lechler.de · www.lechler-agri.com**



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