ENGINEERING
YOUR SPRAY SOLUTION

# Field crops
# Nozzles and Accessories
Catalogue P 2016

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

**Lechler is a world leader in nozzle technology. For over 135 years, we have pioneered numerous groundbreaking developments in the field of nozzle technology. Comprehensive nozzle engineering know-how is combined with a deep understanding of application-specific requirements to create products that offer outstanding precision, reliability and durability.**

Modern plant protection involves more than just the use of environmentally friendly chemicals. It is above all a question of precision. In order to achieve uniform coverage, the droplets must reach the target as exactly as possible. Losses due to drift, run-off or evaporation should be avoided – in favour of the environmental protection.

The application technology and here particularly the plant protection nozzles must therefore meet very high requirements. Today, nozzles must offer a degree of precision that would have been considered impossible just a few years ago.

As a globally leading manufacturer of precision nozzles, Lechler is ideally prepared to meet this challenge. For decades now, our products have set the technological standards in the fields of crop protection and liquid fertilizer application. Through regular and extensive investment in research and development, we ensure that this will also remain the case in the future. The functions and characteristics of our precision nozzles are defined exactly and objectively right from the start. This process is based on sophisticated measuring techniques and our proven documentation system.

State-of-the-art design and simulation techniques guarantee practically-oriented products with a high practical value.

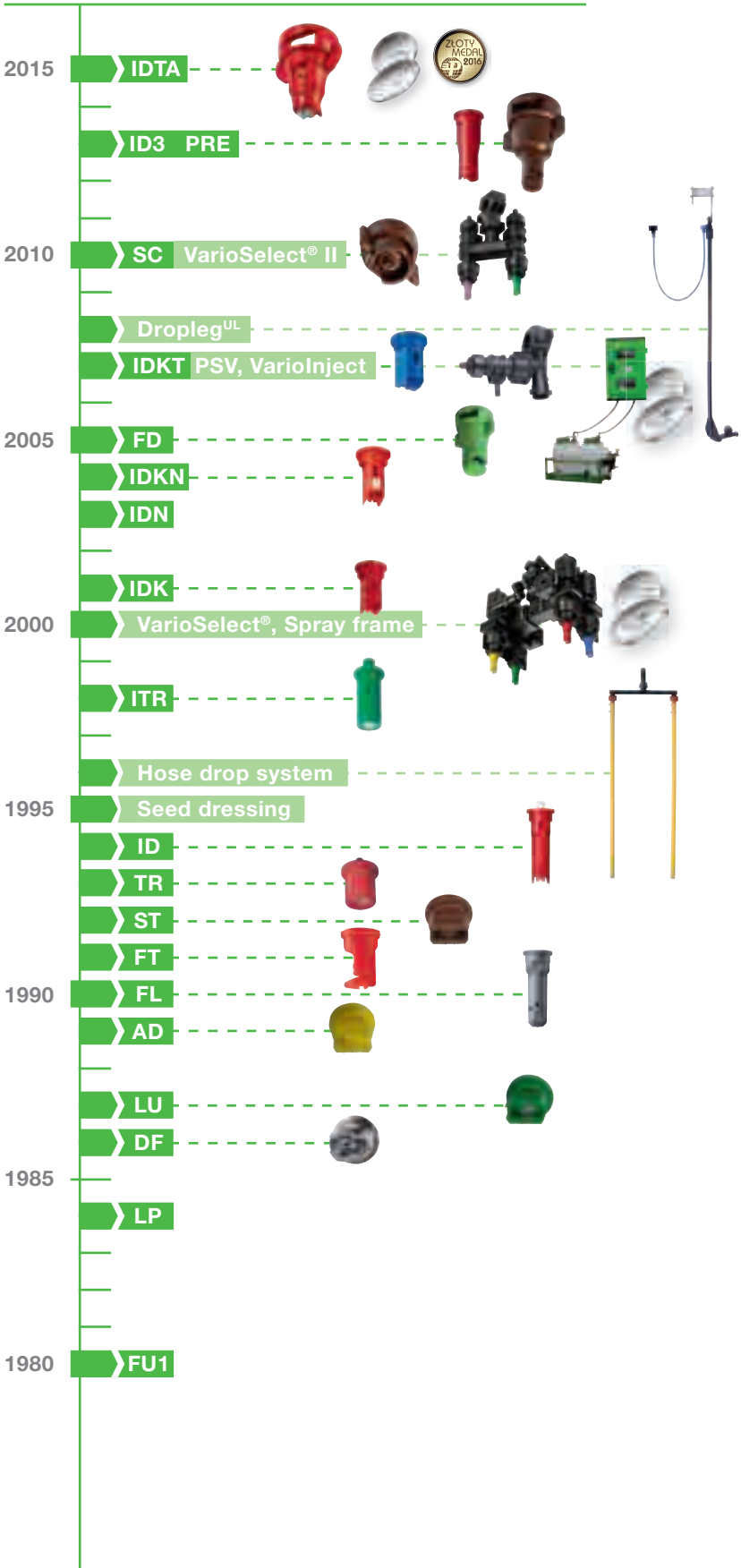
With Lechler nozzles, one spray jet is the same as the next. This demands a high level of precision and care in production. Our processes are therefore subject to permanent quality control measures, from the incoming goods department, through development and production right up to dispatch. Our quality management system is based primarily on the requirements of our customers and is certified in accordance with ISO 9001:2008. Lechler nozzles comply with the requirements of the Julius Kühn Institute, the German Plant Protection Act as well as European EN and international ISO standards.

Thanks to close cooperation and active exchange of information with official test institutes, the chemicals and liquid fertilizer industry, the equipment manufacturers and last but not least agricultural consultants, we also ensure that we are fully up-to-date on current practical requirements. After all, one thing is certain: solutions for practical applications can only be developed from practical knowledge.

**This catalog contains our comprehensive Lechler agricultural spray nozzle and accessory range so see for yourself our product range.**

# PROGRESS MEANS FURTHER DEVELOPMENT

**Therefore success is not a final state for us, but simply a further step on the way to even greater perfection.**




| CONTENT | Page |
|---|---|
| The right nozzle for your plant protection | 4-5 |
| Innovative nozzle design – Lechler IDTA | 6-7 |
| Nozzle Recommendations | 8-11 |
| Lechler nozzles for the Crop production | 12-13 |
| Products | |
| Air-injector flat spray nozzles ID3 | 14 |
| Air-injector flat spray compact nozzles IDK/IDKN | 15 |
| Pre-emergence flat spray nozzle PRE | 16 |
| Anti-drift flat spray nozzles AD | 17 |
| Multirange flat spray nozzles LU | 18 |
| Even flat spray nozzles E | 19 |
| Asymmetrical twin flat spray air-injector nozzles IDTA | 20 |
| Symmetrical twin flat spray air-injector compact nozzles IDKT | 21 |
| Air-injector off center nozzles IS | 22 |
| Air-injector off center nozzles IDKS | 23 |
| Accessories | |
| Ball check valves/Nozzle strainers | 24 |
| Bayonet caps for MULTIJET and non-Lechler origin | 25 |
| Farmer‘s helpers | 26-27 |
| Spray table | 30-31 |

# THE RIGHT NOZZLE FOR YOUR PLANT PROTECTION

**Coverage, drift, biological and ecological efficacy have to be in a good balance to make your spraying a success. Lechler spray tips ensure you for all kind of application. Every time.**

## Matches every challenge.

### Technical requirements

Lechler meets requirements of JKI, ENTAM as well as the international EN/ISO standards.

This ensures an optimum use of plant protection products, e.g. flow rate tolerance and distribution uniformity.

### Biological requirements

In order to achieve the optimum effect, application of plant protection products must be as precise as possible. Lechler precision nozzles achieve exact dosage and uniform distribution. Flat spray nozzles generally achieve good crop penetration (e.g. mildew control in cereal crops).

Double flat spray nozzles cover vertical targets, e.g. black gras, ear treatment much better. Also at no till or cloddy soil conditions they avoid spray shadows.

## Environmentally-relevant requirements

As much as necessary as little as possible. For effective plant protection the proposed active substances must reach the target without any loss. Therefore it is essential to reduce drift by wind or thermal to avoid pollution of crops, waters, humans as well as animals.

## Drift-reducing technology

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.

The distances from water and field boundaries can be reduced with air-injector nozzles. The result: More yield by guaranteed protection of field boundaries and waters.

# INNOVATIVE NOZZLE DESIGN – LECHLER IDTA

**It is one thing to be aware of the requirements to achieve good crop production. It is another to create a product that will fulfill these. A good example is the new IDTA with its operator oriented design. The IDTA is a high drift reducing asymmetrical twin flat spray air – injector nozzle for optimal coverage at higher forward speeds. The newest development in the wide range of agricultural spray nozzles is suitable for a wide range of applications.**

## Optimized twin flat spray concept

For best deposit on vertical targets the IDTA has asymmetric spray angles of 120° to the front and 90° to the back. With the angling of 30° to the front and 50° to the back the actual spray width at the target is the same. Also the spray volume is divided 60 % to the front and 40 % to the back to get best result at higher forward speed.

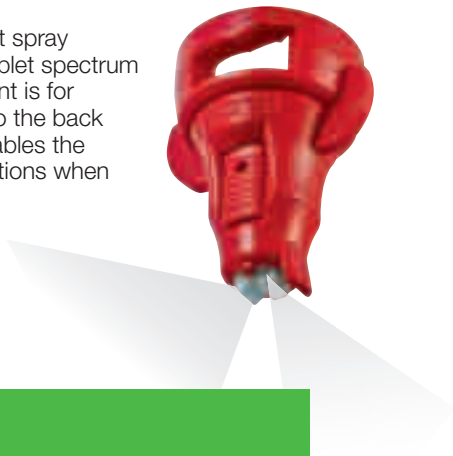
## Facts

To prove the high efficiency of the IDTA several field tests have been conducted. Deposit at vertical targets (e. g. black grass) has been checked with water sensitive paper. This test has been done with a field sprayer Amazone UF 1201 with 15 m boom. Results show significant difference on front and back at different forward speed between the different nozzles.

| Type | Lechler ID 120-03 (ID3) | Lechler IDTA 120-03 | Competitor Asym. DF 110-03 |
|---|---|---|---|
| **Pressure** | 5 bar | 5 bar | 5 bar |
| **Speed** | 12 km/h | 12 km/h | 12 km/h |
| Deposit towards front<br>Coverage in %<br>+ Droplet number/ cm² |  <br>5.4 % + 5 d/cm² |  <br>15.5 % + 10 d/cm² |  <br>5.9 % + 5.6 d/cm² |
| Deposit towards back<br>Coverage in %<br>+ Droplet number/ cm² |  <br>9.5 % + 24.9 d/cm² |  <br>30.2 % + 60.7 d/cm² |  <br>27.2 % + 63.5 d/cm² |

## More applications

As a consequence of the different spray angles and volume rates, the droplet spectrum is changed. Finer spray to the front is for excellent coverage and coarser to the back is for better drift stability. This enables the IDTA nozzle to spray under conditions when other nozzles have to stop.



### Results

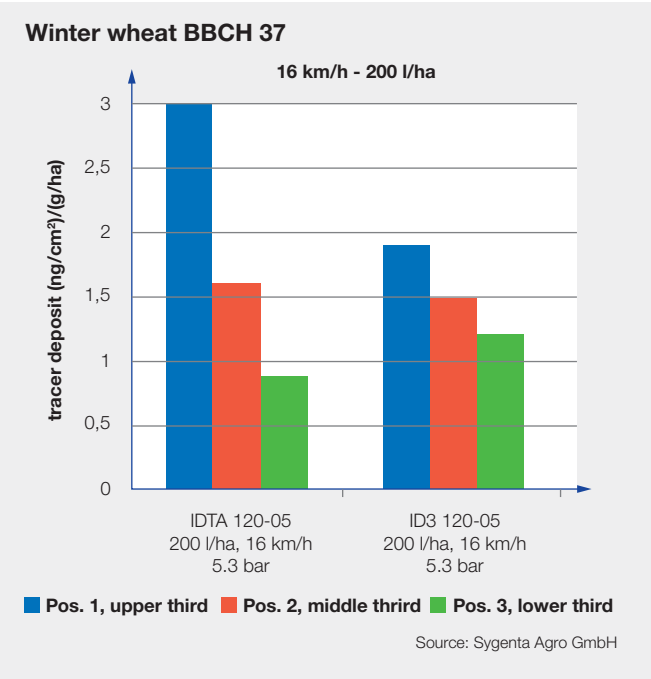
Compared to standard air-injector nozzles e. g. ID-120-03 the IDTA gives clear advantages in the field:

- Double overall coverage
- Significant higher total deposit on the front and back of vertical targets
- More uniform coverage on front and back

## Nozzle type influences deposit on target area

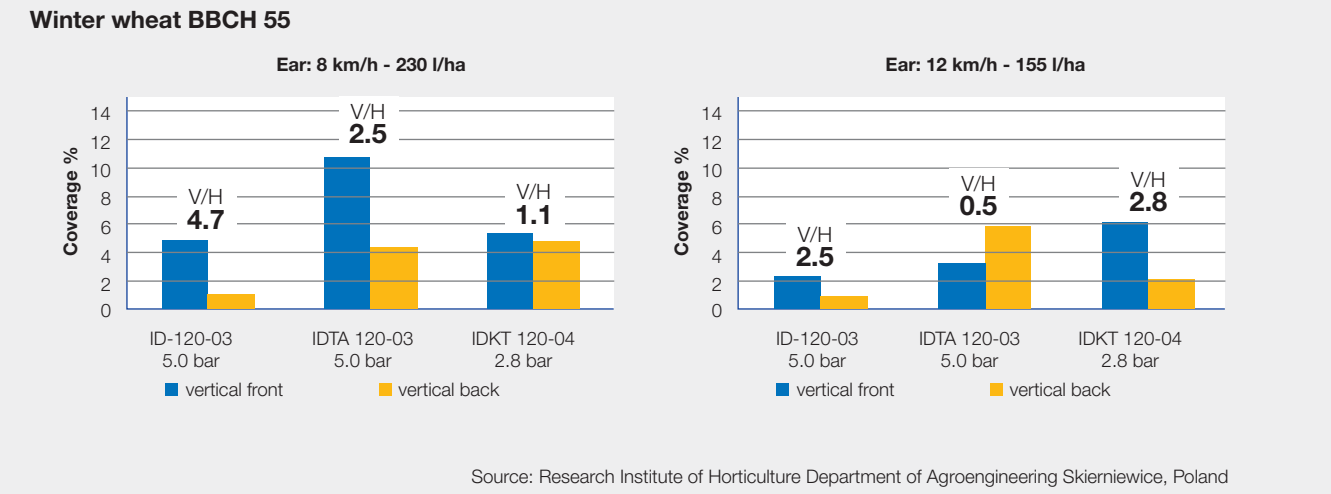
To obtain high biological efficacy best coverage at the target is prerequisite. Depending on crop and growth stage this may change. So for optimum application there is a need for at least two or more different nozzle settings. Important is to know the target area.

Better coverage on vertical targets can be achieved by using twin flat fan nozzles. Penetration into the canopy a standard single fan nozzle has advantages.


**Pcture 1:** Nozzle comparison in winter wheat, BBCH 37. Deposit of ID-120-05 compared to IDTA 120-05C in upper third, middle third and lower third.

## Target oriented application – better coverage on vertical targets by asymmetrical spray pattern at higher forward speeds

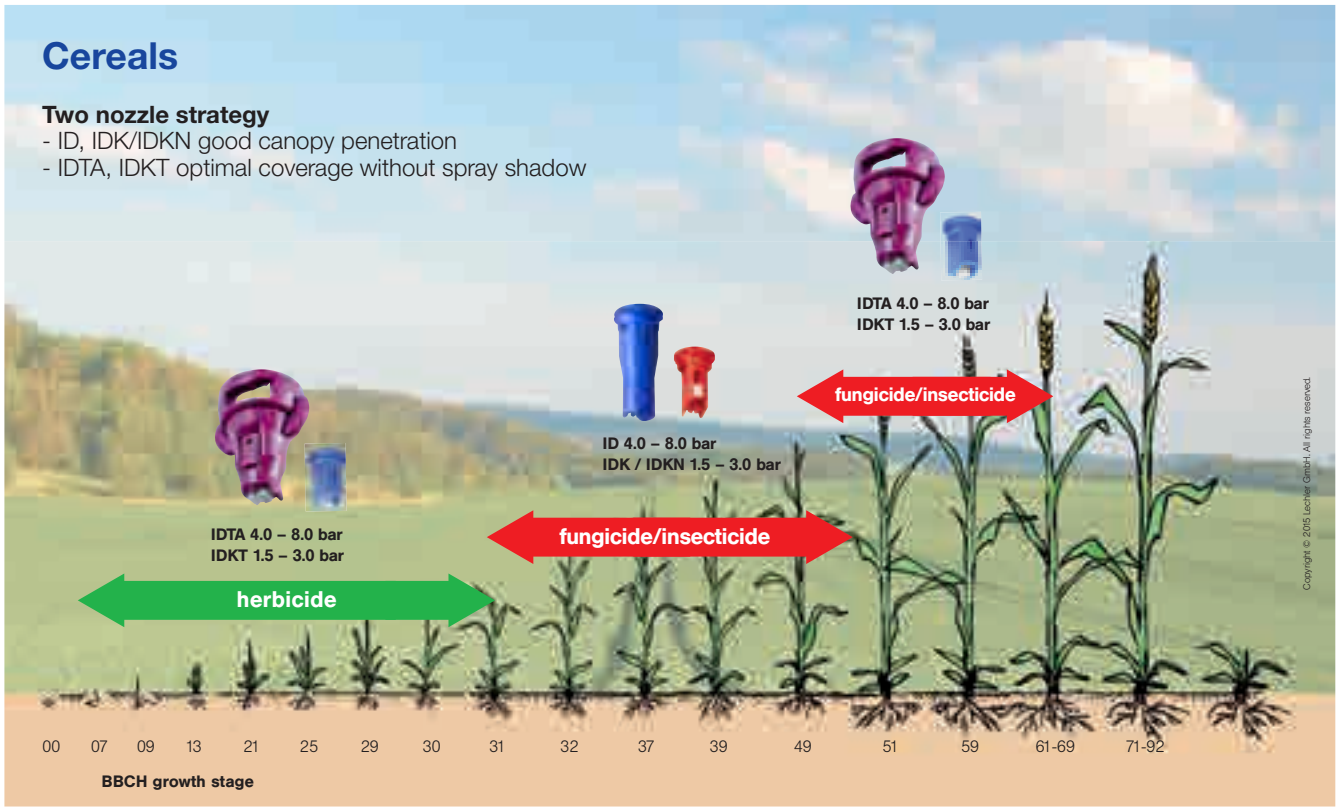


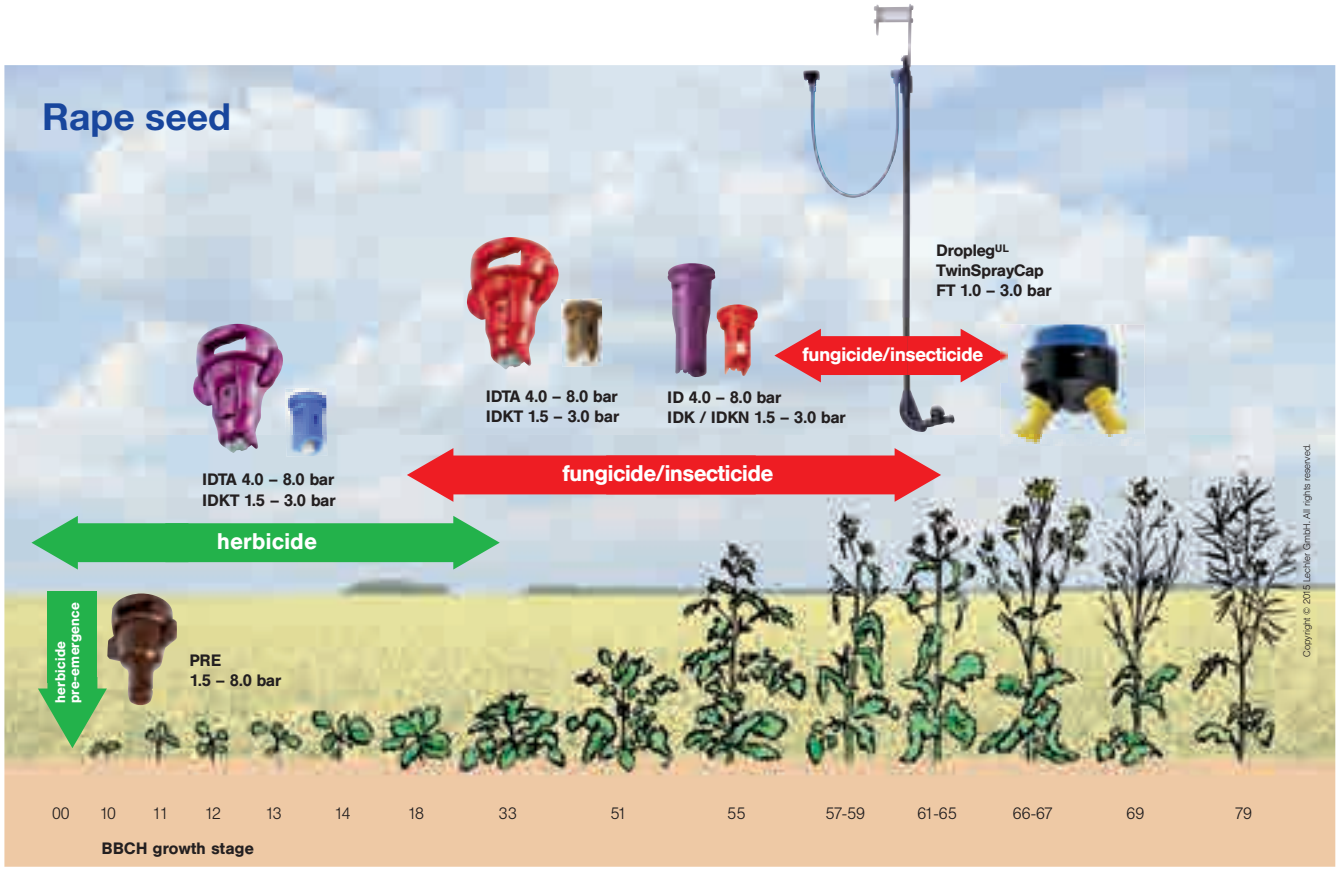

**Picture 2:** Coverage on ear in winter wheat BBCH 55 with different nozzle types at different forward speed and application rates.

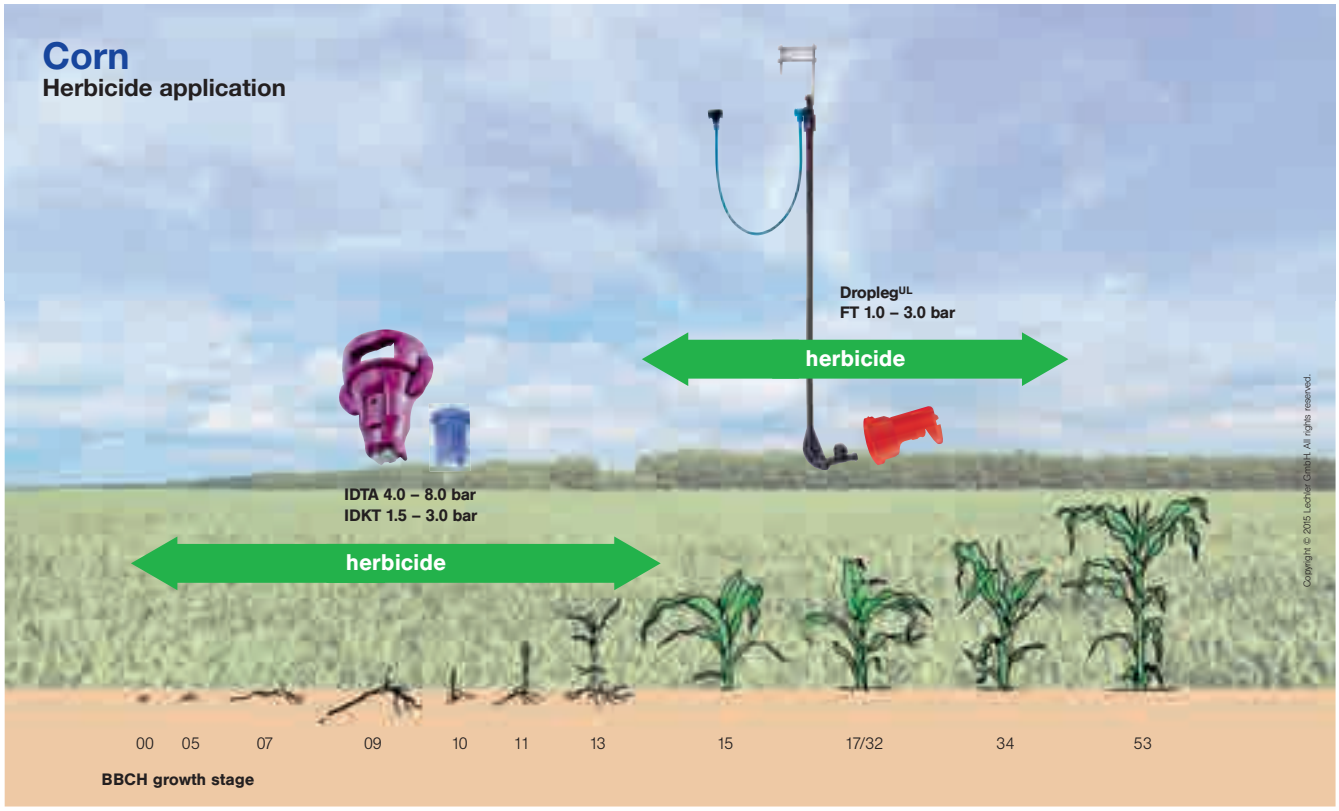
At 8 km/h the IDKT has a balanced coverage of the ear front and back thanks to the symmetrical pattern.

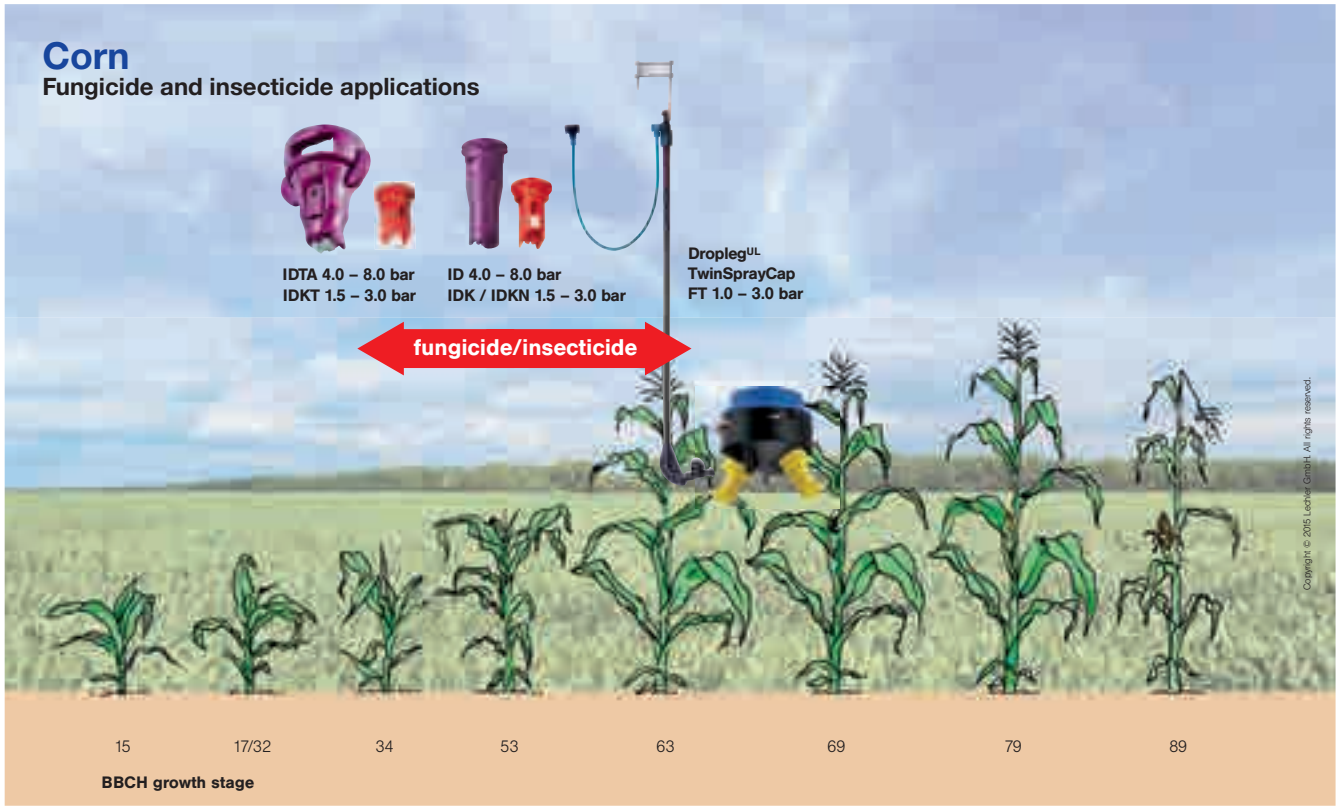
At 12 km/h and higher speed the asymmetrical pattern of the IDTA give the more uniform coverage.

# NOZZLE RECOMMENDATION FOR PESTICIDE APPLICATION

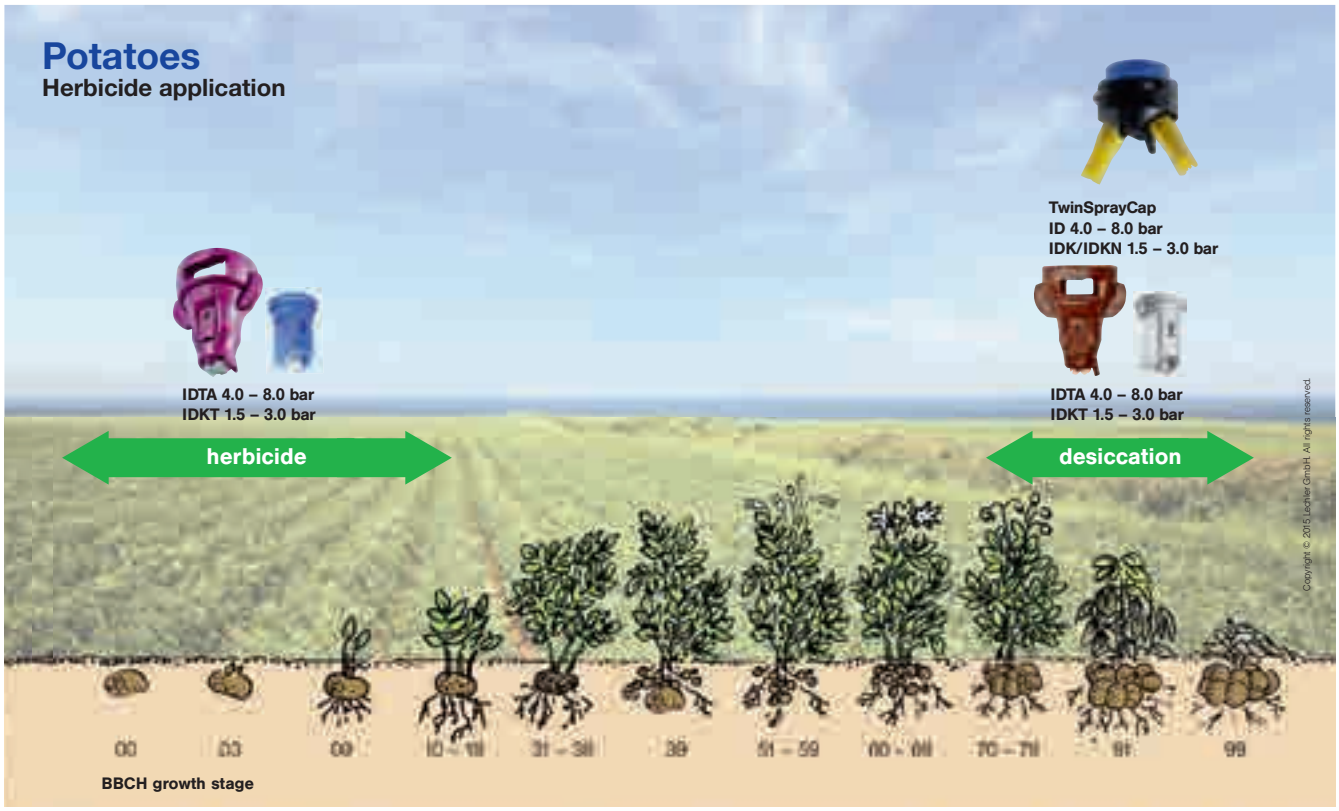


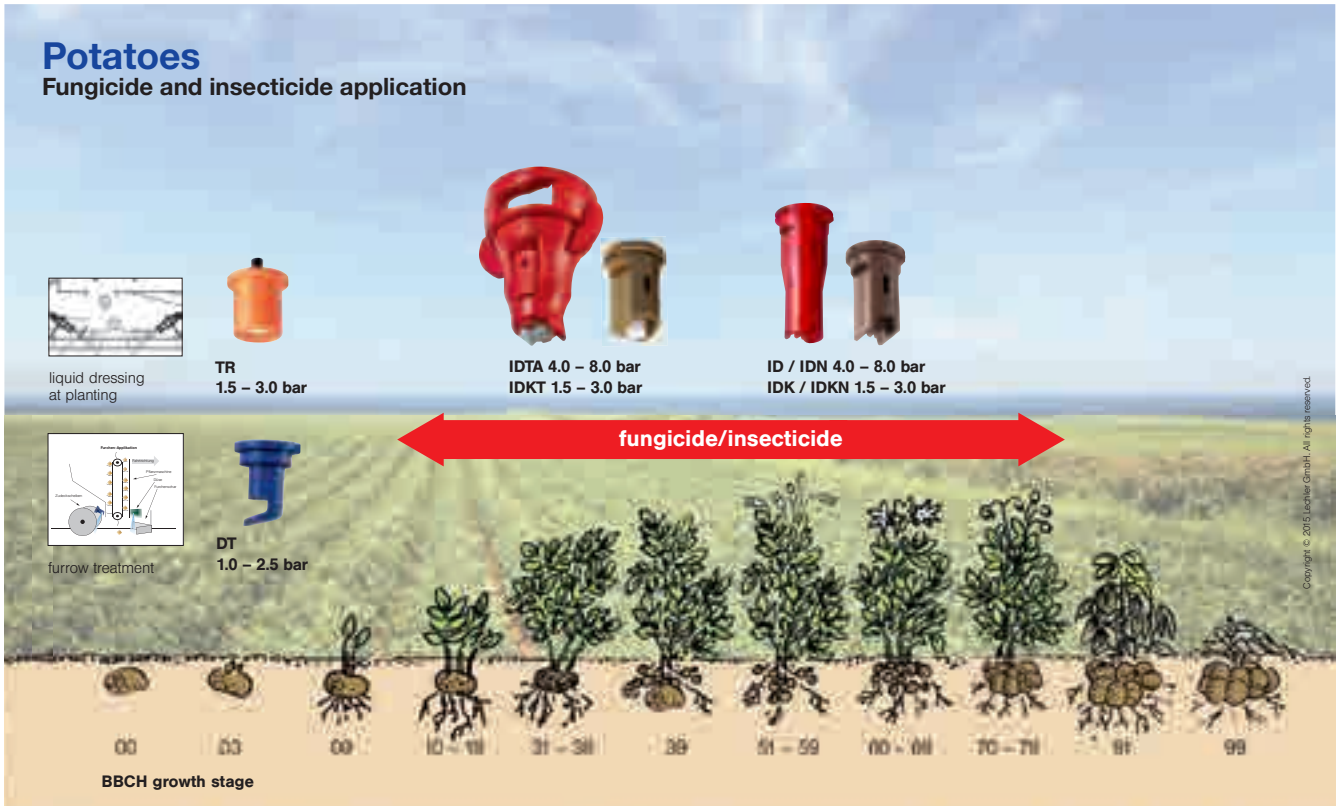



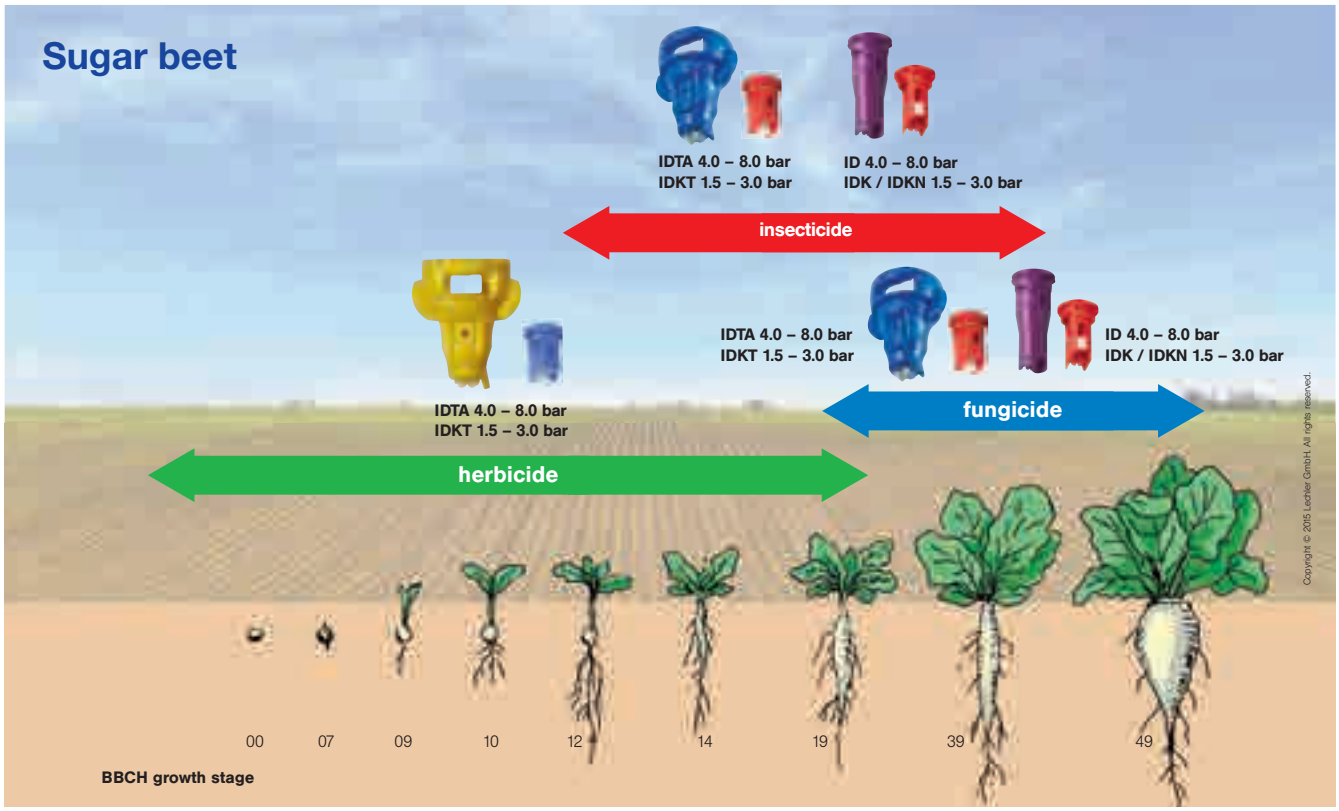

Corn
Herbicide application
Dropleg^UL
FT 1.0 – 3.0 bar
herbicide
IDTA 4.0 – 8.0 bar
IDKT 1.5 – 3.0 bar
herbicide
00 05 07 09 10 11 13 15 17/32 34 53
BBCH growth stage
Copyright © 2015 Lechler GmbH. All rights reserved.


Corn
Fungicide and insecticide applications
IDTA 4.0 – 8.0 bar
IDKT 1.5 – 3.0 bar
ID 4.0 – 8.0 bar
IDK / IDKN 1.5 – 3.0 bar
Dropleg^UL
TwinSprayCap
FT 1.0 – 3.0 bar
fungicide/insecticide
15 17/32 34 53 63 69 79 89
BBCH growth stage
Copyright © 2015 Lechler GmbH. All rights reserved.

# NOZZLE RECOMMENDATION FOR PESTICIDE APPLICATION




Sugar beet
IDTA 4.0 – 8.0 bar
IDKT 1.5 – 3.0 bar
ID 4.0 – 8.0 bar
IDK / IDKN 1.5 – 3.0 bar
insecticide
IDTA 4.0 – 8.0 bar
IDKT 1.5 – 3.0 bar
IDTA 4.0 – 8.0 bar
IDKT 1.5 – 3.0 bar
ID 4.0 – 8.0 bar
IDK / IDKN 1.5 – 3.0 bar
fungicide
herbicide
00
07
09
10
12
14
19
39
49
BBCH growth stage
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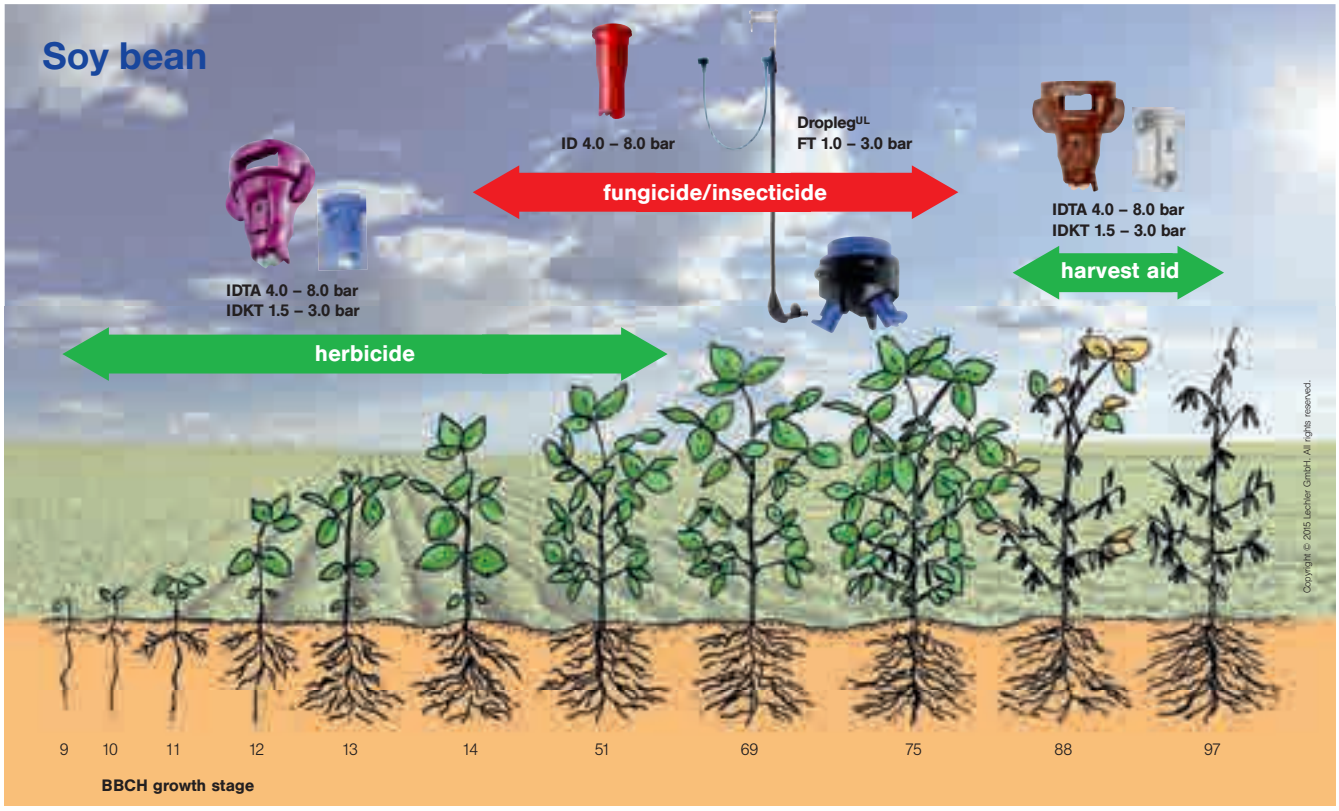
Soy bean
ID 4.0 – 8.0 bar
Dropleg^UL
FT 1.0 – 3.0 bar
fungicide/insecticide
IDTA 4.0 – 8.0 bar
IDKT 1.5 – 3.0 bar
harvest aid
IDTA 4.0 – 8.0 bar
IDKT 1.5 – 3.0 bar
herbicide
9
10
11
12
13
14
51
69
75
88
97
BBCH growth stage
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# LECHLER NOZZLES FOR THE CROP PRODUCTION

| | ID3 | IDK/ IDKN | IDTA | IDKT | PRE | AD | QS 80 | LU | ST/SC | DF |
|---|---|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |  |  |
| **Spray geometry** | | | | | | | | | | |
| **Drift potential** | extremely low | very low | extremely low | very low | extremely low | low | low/ medium | low/ medium | medium | high |

## Broadcast spraying

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | **2-3**-5 |
| Herbicides | soll incorporated | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ● | - |
| | pre-emerge | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ● | - |
| | post-emerge (systemic) | ●● | ●● | ●● | ●● | - | ●● | ●● | ●● | ● | ○ |
| | post-emerge (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) | ○ (1.5-2.0) | ○ (1.5-2.0) | ○(2) | - |
| Growth regulators | | ●● | ●● | ● | ● | - | ●● | ●● | ●● | ● | ○ |
| Irrigation (via boom) | | ●● | ●● | ●● | ●● | ●● | ●● | ● | ● | ● | - |

## Banding/row spraying – arable crops and speciality crops

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Recommended pressure range (bar) | | - | - | - | - | - | - | - | - | - | - |
| Herbicides | soll incorporated | - | - | - | - | - | - | - | - | - | - |
| | pre-emerge | - | - | - | - | - | - | - | - | - | - |
| | post-emerge (systemic) | - | - | - | - | - | - | - | - | - | - |
| | post-emerge (contact) | - | - | - | - | - | - | - | - | - | - |
| Fungicides | Contact | - | - | - | - | - | - | - | - | - | - |
| | Systemic | - | - | - | - | - | - | - | - | - | - |
| Insecticides | Contact | - | - | - | - | - | - | - | - | - | - |
| | Systemic | - | - | - | - | - | - | - | - | - | - |
| Liquid fertilizer | | - | - | - | - | - | - | - | - | - | - |
| Growth regulators | | - | - | - | - | - | - | - | - | - | - |
| Irrigation (via boom) | | - | - | - | - | - | - | - | - | - | - |

Heed label of chemical company

Nozzle size: * ID3-01/-015 ** IDK-04/-05/-06 *** IDKT-03/-04/-05/-06
IDKN-03/-04

| FT/DT | TR | ITR | FD | FL | IS | IDKS | BN | OC | E | ID 90 | IDK 90 | AD 90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| medium | high | very low | very low | very low | extremely low | very low | medium | medium | medium | extremely low | very low | low |

| **1-2**-3 | **3-8** | 3-**5-10** | **1.5-4** | **1-5** | 2-**4-8** | 1****/**1.5-3**-6 | - | **1.5-2.5**-5 | - | 2*/3-**4-8** | 1**-/**1.5-3**-6 | **1.5-3**-6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ●● | ○ | ●● | - | - | ●● | ●● | - | ●● | - | ●● | ●● | ●● |
| ●● | ○ | ○ | - | - | ●● | ●● | - | ●● | - | ●● | ●● | ●● |
| ● | ○ | ○ | - | - | ●● | ●● | - | ●● | - | ●● | ●● | ●● |
| ● | ●● | - | - | - | ● | ● | - | ●● | - | ● | ● | ● |
| ● | ●● | ○ | - | - | ● | ● | - | ●● | - | ● | ● | ● |
| ● | ● | ● | - | - | ●● | ●● | - | ●● | - | ●● | ●● | ●● |
| ● | ●● | ○ | - | - | ● | ● | - | ●● | - | ● | ● | ● |
| ● | ● | ● | - | - | ●● | ●● | - | ●● | - | ●● | ●● | ●● |
| ● (1-2) | - | ●● (3-5) | ●● | ●● | ●● (2.0-4.0) | ●● (1****/1.5-2.5) | - | ○ (1.5-2.0) | - | ●● (2-4) | ●● (1**/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 | - | - | - |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| - | ○ | - | - | - | ●● | ●● | ●● | ●● | ●● | - | - | - |
| - | ○ | - | - | - | ●● | ●● | ●● | ●● | ●● | - | - | - |
| - | ○ | - | - | - | ●● | ●● | ●● | ●● | ●● | - | - | - |
| - | ●● | - | - | - | ● | ● | ●● | ●● | ●● | - | - | - |
| - | ●● | - | - | - | ● | ● | ●● | ●● | ●● | - | - | - |
| - | ● | - | - | - | ●● | ●● | ●● | ●● | ●● | - | - | - |
| - | ●● | - | - | - | ● | ● | ●● | ●● | ●● | - | - | - |
| - | ● | - | - | - | ●● | ●● | ●● | ●● | ●● | - | - | - |
| - | - | - | - | - | ●● (2.0-4.0) | ●● (1****/1.5-2.5) | ○ (1-2) | ○ (1.5-2.0) | ○ (1-2) | - | - | - |
| - | ○ | - | - | - | ●● | ●● | ●● | ●● | ●● | - | - | - |
| - | - | - | - | - | ●● | ●● | ●● | ● | ● | - | - | - |

Nozzle size: **** IDKS-03/-04/-05/-06

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

# Air-Injector flat spray nozzles ID3

ID3

**Drift reduction: 90/75/50 %**

Current list under
**www.lechler-agri.com**

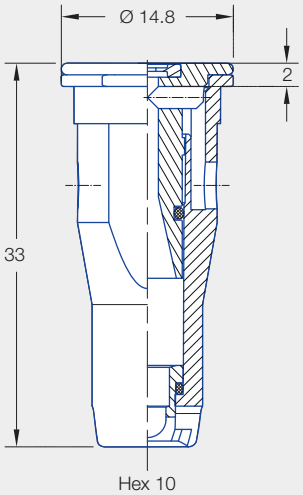
Extremely low-drift, air-injector flat spray nozzle for professional use.

### Advantages

- 90 % drift reduction
  - ID-120-025 to 05
- Long injector design ensures high drift stability even at high pressures up to 8 bar
- Timely application even under adverse weather conditions
- Increased workrate due to flexible use over a wide pressure range
  - Adaptation by changing the driving speed and l/ha rate without nozzle changes
- Very good deposition structure and crop penetration

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

ID3 ID3-C




**Nozzle size**
01 – 08

**Spray angle**
120°

**Material**
POM, ceramic

**Pressure range**
- ID-01 to -015:
  3 – **4 – 8** bar
- ID-02 to -08:
  2 – **4 – 8** bar

**Recommended filters**
80 M 01
60 M 02 – 04
25 M 05 – 08

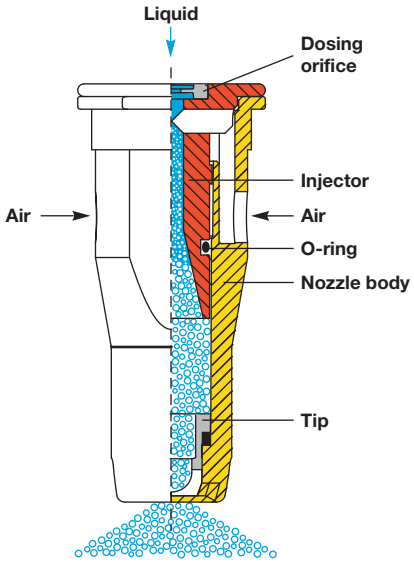
**Droplet size**
Extreme coarse – medium

**Width across flats**
10 mm

### Application areas

- Plant protection products and growth regulators
- Liquid fertilizer
- Border application can be combined with border nozzle IS 80
- Golf course

Toolless removable injector




**Example of ordering**

| Type + | spray angle + | int'l nozzle size | + | material | = | order number |
|---|---|---|---|---|---|---|
| ID3 | 120° | 025 | | (POM) | = | ID-120-025 |
| ID3 | 120° | 025 | | C (ceramic) | = | ID-120-025 C |

# Air-injector flat spray compact nozzles IDK
# Air-injector flat spray compact nozzles IDKN

**Drift reduction: 90/75/50 %**

Current list under
**www.lechler-agri.com**

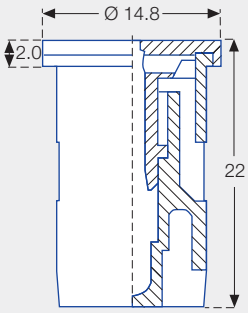
Very low-drift, compact air-injector flat spray nozzle with wide droplet spectrum (from extreme coarse to fine).

**Advantages**

- 90 % drift reduction
  - IDK 120-05 to 06
  - IDKN 120-03 to 04
- 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

G 1661
G 1662
G 1663
G 1683
G 1718
G 1799
G 1800
G 1801
G 1802
G 1936

IDK IDK-C IDKN*




* IDKN-characteristic: body with white stripe

**Nozzle size**
01 – 06

**Spray angle**
90°, 120°

**Material**
POM, ceramic

**Pressure range**
- IDK-01 to -03: **1.5 – 3** – 6 bar
- IDK-04 to -06: 1 – **1.5 – 3** – 6 bar
- IDKN-03 to -04: 1 – **1.5 – 3** – 6 bar

**Recommended filters**
80 M 01
60 M 015 – 04
25 M 05 – 06

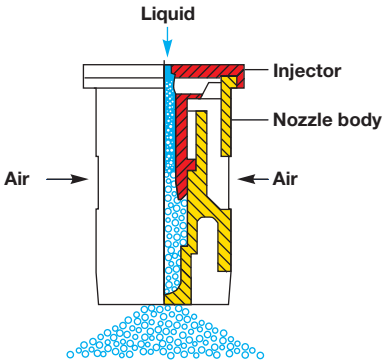
**Droplet size**
Extreme coarse – fine

**Width across flats**
8 mm

**Application areas**

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

Toolless removable injector




**Example of ordering**

| Type | + spray angle | + int'l nozzle size | + material | = order number |
|---|---|---|---|---|
| IDK | 120° | 01 | (POM) | = IDK 120-01 |
| IDK | 120° | 01 | C (ceramic) | = IDK 120-01 C |
| IDK | 120° | 03 | (PP) | = IDK 120-03 PP |
| MultiCap IDK | 120° | 01 | (POM) | = MultiCap IDK 120-01 |

# Pre-emergence flat spray nozzle PRE

**Drift reduction: 95/90 %**

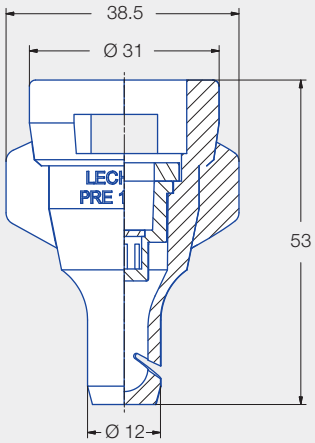
Current list under
**www.lechler-agri.com**

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

**Advantages**

- 95 % drift reduction from 1.5 to 5 bar
- Flexible adaption to buffer zones
- Wide pressure range from 1.5 to 8 bar
- High workrate through simple adaptation of l/ha rate and driving speed
- Timely application even under adverse weather conditions

G 1981




**Nozzle size**
05

**Spray angle**
130°

**Material**
POM

**Pressure range**
**1.5 – 8** bar

**Recommended filters**
25 M

**Droplet size**
Extreme coarse

**Application areas**

Herbicides pre-emerge

Liquid fertilizer

Golf course

# Anti-drift flat spray nozzles AD

Low-drift flat spray nozzle.

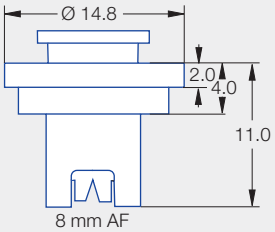
**Advantages**

- Application with medium to coarse droplet even with low l/ha rates
- Integrated pre-chamber ensures optimized atomization and reduced fine droplet share
- Pre-chamber can be removed for cleaning

G 1666
G 1667
G 1668

AD

AD-C




**Nozzle size**
01 – 04

**Spray angle**
90°, 120°

**Material**
POM, ceramic

**Pressure range**
**1.5 – 3** – 6 bar

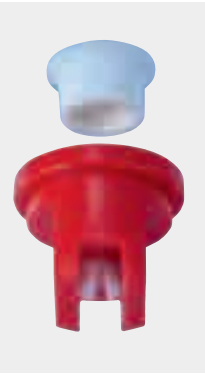
**Recommended filters**
80 M 01 – 015
60 M 02 – 04

**Droplet size**
Coarse – fine

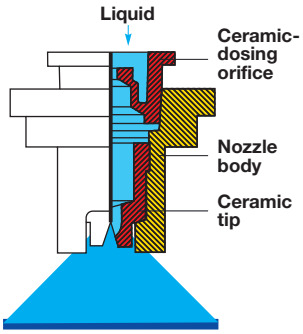
**Width across flats**
8 mm

**Application areas**

Plant protection products and growth regulators



Removable preatomizer




Cleaning brush for AD nozzles
Order no. 06A.D30.56.00

**Example of ordering**

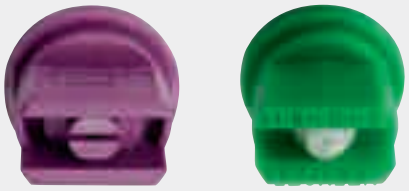
| Type | + | spray angle | + | int'l nozzle size | + | material | = | order number |
|---|---|---|---|---|---|---|---|---|
| AD | | 120° | | 02 | | (POM) | = | AD 120-02 |
| AD | | 120° | | 02 | | C (ceramic) | = | AD 120-02 C |

# Multirange flat spray nozzles LU

Universal flat spray nozzle with finer droplet spectrum.

**Advantages**
- Extended pressure range
- Low drift in the pressure range up to 2.5 bar
- Fine-droplet application
- High manufacturing quality

G 1240
G 1242
G 1524
G 1596
G 1597

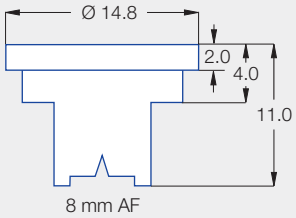


LU



LU-C

LU-S




**Nozzle size**
01 – 08

**Spray angle**
90°, 120°

**Material**
POM, stainless steel, ceramic

**Pressure range**
**1.5 – 2.5** – 5 bar

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

**Droplet size**
Coarse – fine

**Width across flats**
8 mm

**Application areas**

Plant protection products and growth regulators

Border application can be combined with border nozzle OC

Backpack sprayer

Greenhouse

**Example of ordering**

| Type | + spray angle | + int'l nozzle size | + material | = | order number |
|---|---|---|---|---|---|
| LU | 120° | 02 | (POM) | = | LU 120-02 |
| LU | 120° | 015 | C (ceramic) | = | LU 120-015 C |
| LU | 120° | 03 | S (stainless steel) | = | LU 120-015 S |

# Even flat spray nozzles E

**Drift reduction: 90/75/50 %**

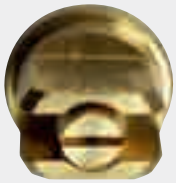
Current list under
**www.lechler-agri.com**

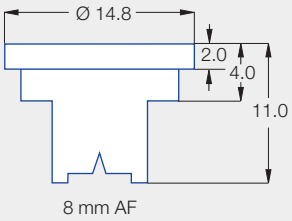
Flat spray nozzle with rectangular liquid distribution for band and row spraying.

**Advantages**

- Only even flat spray nozzle with 90 % drift reduction approved by JKI!
- Fully formed spray angle from 1 bar
- Uniform active ingredient distribution over the entire bandwidth
- Extremely small spraying distances possible
- Product application quantity only 10 – 50 % in comparison with full-area treatment

G 1435
G 1436
G 1437
G 1438






**Nozzle size**
01 – 08

**Spray angle**
80°

**Material**
Brass, POM

**Pressure range**
**1 – 3** – 4 bar

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

**Droplet size**
Coarse – fine

**Width across flats**
8 mm

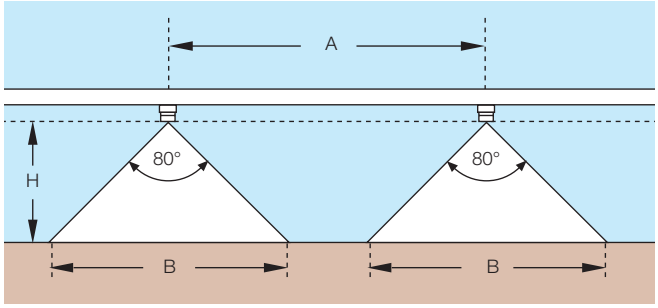
**Application areas**

Band spraying

Backpack sprayer

## Nozzle alignment

Lechler's even flat spray nozzles E enable extremely short spray heights (H), thus extensively avoiding band drift.
The width of the spray band (B) can be varied by altering the spray height (H) and/or rotating the spray axis to change the spray offset.




## Reduction of application rate

Depending on band width and row distance the application rate can be reduced down to 10 – 50 % of spraying the whole field.

| Spray height H cm | Band width B cm | Application rate* (in %), for a 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 |

* Percentages in comparison with full-area treatment

**Example of ordering**

| Type + | spray angle + | int'l nozzle size + | material = | order number |
|---|---|---|---|---|
| E | 80° | 02 | Brass = | 8002 E brass |
| E | 80° | 02 | POM = | 8002 E |

# Asymmetrical twin flat spray air-injector nozzles IDTA

IDTA
Twin Asymmetric Full Coverage

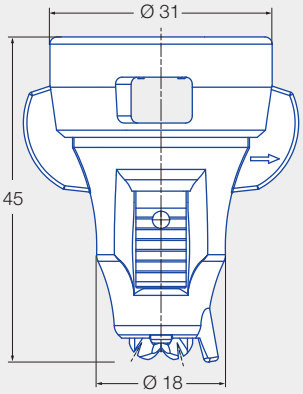
PATENTED

NEW

ZŁOTY MEDAL 2016

AMTLICH GEPRÜFT JKI Julius Kühn-Institut UND ANERKANNT

G 2015
G 2016
G 2017
G 2018




Extremely low-drift, air-aspirating air injector twin flat spray nozzle for optimized deposition and reduced spray shadow at higher driving speeds.

**Advantages**

- High drift reduction over entire pressure range
- Nozzle in cap with MULTIJET bayonet system
- Twin flat spray jet 30°/50° with asymmetrical spray angles and flow rates
  - 90°/120° gives on the target area the same spray width
  - Finer droplet spectrum to the front in driving direction for optimum wetting
  - Coarser, more drift-resistant droplet spectrum to the rear
  - Precise border application in combination with IS border nozzle
- Optimum user protection thanks to removal/installation of the injector with protective gloves without tools (Patent)

**Nozzle size**
02 – 08

**Spray angle**
Front 120°/
back 90°

**Material**
Ceramic

**Pressure range**
1 – **4 – 8** bar

**Recommended filters**
80M 02
60M 025 – 08

**Droplet size**
Extreme coarse – medium

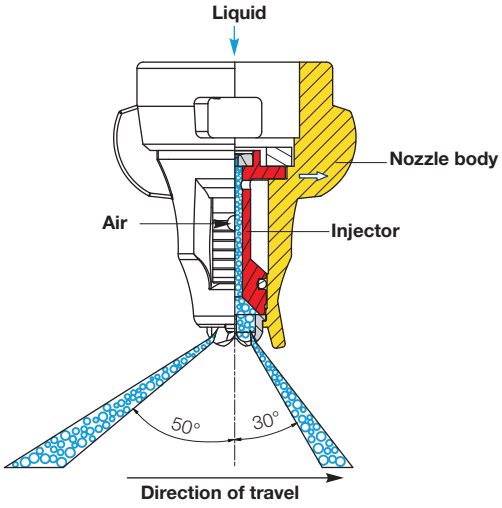
**Application areas**

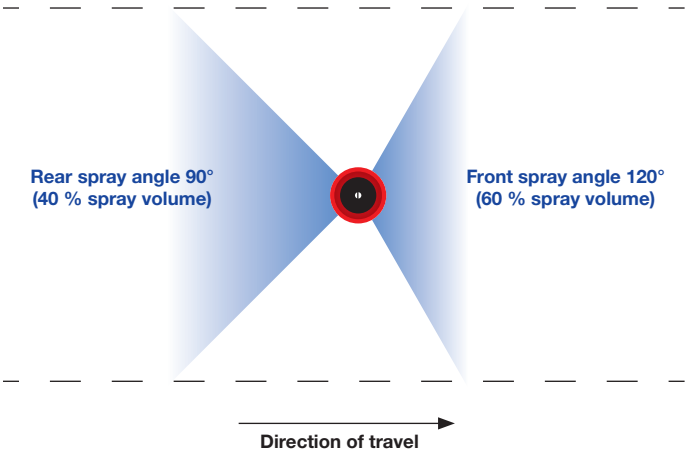
Plant protection products and growth regulators

Border application can be combined with border nozzle IS 80

Golf course

Toolless removable injector




**Example of ordering**

| Type | + | spray angle | + | int'l nozzle size | + | material | = | order number |
|---|---|---|---|---|---|---|---|---|
| IDTA | | 120° | | 025 | | C (ceramic) | = | IDTA 120-025 C |

# Symmetrical TWIN flat spray air-injector compact nozzles IDKT

**Drift reduction: 90/75/50 %**

Current list under
**www.lechler-agri.com**

Each also in association with IDKS-border nozzles identical size.

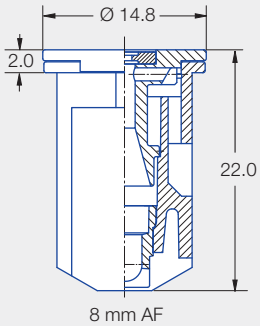
Very low-drift, air-injector twin flat spray nozzle for optimized deposition and reduced spray shadow.

**Advantages**

- 90 % drift reduction
  - IDKT 120-02 to 06
- Compact design
- Optimum deposition on foliage and vertical target surfaces thanks to symmetrical twin flat spray jet 30°/30°
- Reduced spray shadow
- Improved wetting thanks to balanced droplet spectrum
- JKI approval for mixed equipment with IDK/IDKN nozzles with the same nozzle sized in the boom center section

G 1836
G 1837
G 1865
G 1882
G 1883
G 1884
G 1911
G 1912
G 1935

IDKT-C IDKT




**Nozzle size**
015 – 06

**Spray angle**
120°

**Material**
POM, ceramic

**Pressure range**
- IDKT 015 to 025: **1.5 – 3** – 6 bar
- IDKT 03 to 06: 1 – **1.5 – 3** – 6 bar

**Recommended filters**
80M 015 – 02
60M 025 – 06

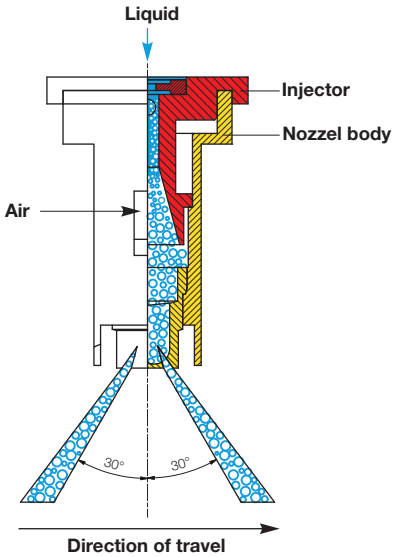
**Droplet size**
Extreme coarse – medium

**Width across flats**
8 mm

**Application areas**

- Plant protection products and growth regulators
- Spray frame
- Border application can be combined with border nozzle IDKS 80
- Golf course
- Greenhouse

Toolless removable injector




**Example of ordering**

| Type | + | spray angle | + | int'l nozzle size | + | material | = | order number |
|---|---|---|---|---|---|---|---|---|
| IDKT | | 120° | | 04 | | (POM) | = | IDKT 120-04 |
| IDKT | | 120° | | 04 | | C (ceramic) | = | IDKT 120-04 C |
| MultiCap IDKT | | 120° | | 04 | | (POM) | = | MultiCap IDKT 120-04 |

# Air-injector off center nozzles IS

**Drift reduction: 90/75/50 %**

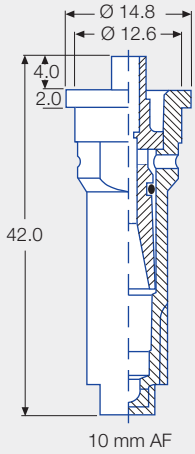
Current list under
**www.lechler-agri.com**

Extremely low-drift, air-injector off center nozzle for border application and banding.

### Advantages

- Same JKI drift reduction class in combination with ID3/ID/IDN nozzles in the field spray boom
- Volume flow adapted for optimum cross distribution in combination with ID3/ ID/IDN/IDTA nozzles of the same size
- Asymmetrical spray pattern (20°/60° to vertical axis)
- Precise edge application along water courses and field boundaries
- Optimum protection of neighboring crops (field edge application or row/special cultures (herbicide banding/ underleaf spraying)

G 1682
G 1753
G 1754
G 1755




**Nozzle size**
02 – 06

**Spray angle**
80°

**Material**
POM

**Pressure range**
- Sprayer / broadcast spraying: 2 – **4 – 8** bar
- Vertical sprayer boom: 2 – **8 – 15** bar

**Recommended filters**
60 M 02 – 04
25 M 05 – 06

**Droplet size**
Very coarse – coarse

**Width across flats**
10 mm

### Application areas

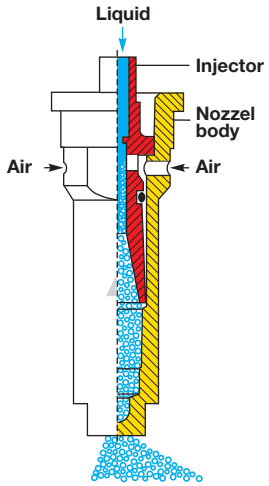
Border nozzle

Band spraying in orchards and vineyards

Vertical boom

Spray frame

Toolless removable injector




**Example of ordering**

| Type | + | spray angle | + | int'l nozzle size | + | material | = | order number |
|---|---|---|---|---|---|---|---|---|
| IS | | 80° | | 02 | | (POM) | = | IS 80-02 |

# Air-injector off center compact nozzles IDKS

**Drift reduction: 90/75/50 %**

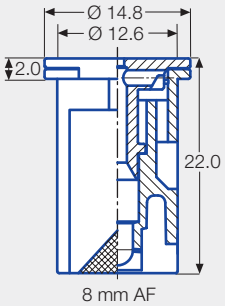
Current list under
**www.lechler-agri.com**

Very low-drift, compact air-injector off center nozzle for border application and banding.

**Advantages**

- 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
- Asymmetrical spray pattern (20°/60° to axis)
- Precise edge application along water courses and field boundaries
- Optimum protection of neighboring crops (field edge application or row/special cultures (herbicide banding/ underleaf spraying)

G 1786
G 1787
G 1788
G 1789




**Nozzle size**
015 – 06

**Spray angle**
80°

**Material**
POM

**Pressure range**
- Sprayer / broadcast spraying: IDKS 015 – 025: **1.5 – 3** – 6 bar
- IDKS* 03 – 06: **1 – 3** – 6 bar
- Vertical sprayer boom: 1*/1.5 – **8 – 15** bar

**Recommended filters**
60 M 015 – 04
25 M 05 – 06

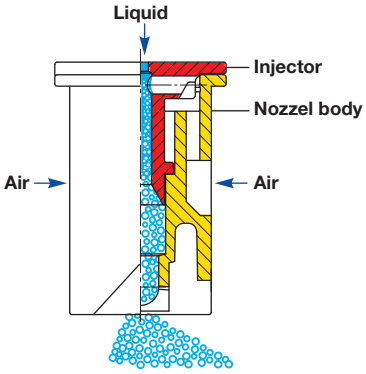
**Droplet size**
Very coarse – medium

**Width across flats**
8 mm

**Application areas**

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

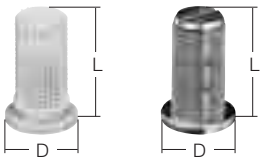
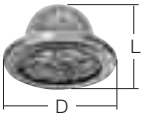
Toolless removable injector




**Example of ordering**

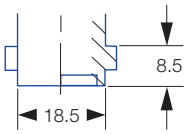
| Type + | spray angle + | int'l nozzle size + | material = | order number |
|---|---|---|---|---|
| IDKS | 80° | 02 | (POM) = | IDKS 80-02 |

# Ball check valves
# Nozzle Strainers

| Ball check valves, Nozzle strainers | Opening Pressure | Mesh size | L mm | D mm | Material | Order. no. |
|---|---|---|---|---|---|---|
| Ball check valves*   | 0.5 bar | 25 M ■ red | 21.5 | 14.8 | POM | 065.266.56.00 |
| | 0.5 bar | 60 M ■ blue | 21.5 | 14.8 | POM | 065.265.56.00 |
| | 0.5 bar | 25 M | 21 | 14.8 | Brass | 065.261.30.00 |
| | 0.5 bar | 60 M | 21 | 14.8 | Brass | 065.260.30.00 |
| | 2.5 bar | 25 M ■ red | 21.5 | 14.8 | POM | 065.266.56.02 |
| | 2.5 bar | 60 M ■ blue | 21.5 | 14.8 | POM | 065.265.56.02 |
| Ball check valve (excl. strainers)   | 0.5 bar | - | 18.5 | 14.8 | POM | 065.266.56.01 |
| Nozzle strainer*   | - | 25 M ■ red | 21.5 | 14.8 | POM | 065.256.56.00 |
| | - | 60 M ■ blue | 21.5 | 14.8 | POM | 065.257.56.00 |
| | - | 80 M ■ yellow | 21.5 | 14.8 | POM | A.424.310.5 |
| Slotted strainer   | - | 25 M ■ red | 21.0 | 14.8 | POM | 095.009.56.13.43 |
| Cup strainer   | - | 25 M | 8.5 | 14.8 | Cu/Monel | 065.252.26.00 |
| | - | 25 M ■ red | 8.5 | 14.8 | PA, Monel | 200.029.26.00.03 |
| | - | 60 M ■ blue | 8.5 | 14.8 | PA, stainless steel | 200.029.1C.01.03 |
| Nozzle strainer with integrated seal for TWISTLOC and MULTIJET   | - | 25 M ■ red | 19.2 | 18.0 | POM, Santoprene | 065.269.7J |
| | - | 60 M ■ blue | 19.2 | 18.0 | POM, Santoprene | 065.268.7J |
| Nozzle strainer with integrated seal for MULTIJET   | - | 60 M ■ blue | 19.2 | 18.8 | POM, Santoprene | 065.268.7J.10 |

* Please note: If applicable we deliver the strainers and ball check valves in the color coding according to ISO 19732:2007

# Bayonet caps for Multijet and non-Lechler origin
# Intermediate and extension adaptor

| MULTIJET | Description | | Color code | Order. no. |
|---|---|---|---|---|
|   Labeling on request | **Bayonet cap** incl. gasket (A.402.200.04) for combination with System MULTIJET, for example:    | **Combi cap** for nozzles with 8 and 10 mm AF AD, DF, E, FL, ID, IDK, IDKN, IDKT, IDKS, IS, LU, OC, ST | 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 |
| | | | grey | Y.825.3C0.00.90.00.0 |
| | | | white | Y.825.3C0.00.50.00.0 |
| | | Fibre-glass reinforced for nozzles with | | |
| | | AF 8 | black | A.402.900.01.A |
| | | AF 10 | black | A.402.902.01.A |
| | | for hollow cone nozzles TR, ITR, FT, DT hose shanks | black | A.402.904.10 |
| | | for flood nozzles FT | blue | A.402.908.4 |
| | | Bayonet cap | black | A.402.910.01 |
| | | 1/4“ NPT female | | |
| | | Shut off cap | black | A.402.909 |

| Non-Lechler origin | Description | | Color code | Order. no. |
|---|---|---|---|---|
| Bayonet cap Type H  | System: **– Hardi** incl. gasket ((8 and 10 mm AF: 095.015.73.06.36) | **Combi cap** for nozzles with 8 and 10 mm AF AD, DF, E, FL, ID, IDK, IDKN, IDKT, IDKS, IS, LU, OC, ST | black | 090.078.56.00.40.1 |
| | **Gasket with special shape** (in combination with nozzle strainer 065.256.56 or 065.257.56 | | | 095.015.7J.04.34 |
| Bayonet cap Type R  | System: **– RAU** incl. gasket (095.015.73.04.61) since 2000 see Bayonet cap MULTIJET above | for nozzles with 8 mm AF AD, E, IDK, IDKN, IDKT, IDKS, LU, OC, ST, DT | red | 095.016.56.05.90 |
| | | for nozzles with 10 mm AF DF, ID3, IS, FL | lavender | 095.016.56.05.97 |

## Intermediate and extension adaptor

Intermediate adaptor* Sys. Lechler Twistloc (092.163.56.00.22.1)
Extension: 22 mm

*incl. gasket

Intermediate adaptor* Sys. Rau (092.163.56.00.21.0)
Extension: 43 mm

Intermediate adaptor* Sys. Hardi (092.163.56.00.20.1)
Extension: 17 mm

Extension adaptor* System Multijet (092.163.56.00.23.1)
Extension: 32 mm

# Farmer’s helpers
# Anemometer

## Pocketwind IV


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

**Features**
- 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 the measuring sensors against damage
- Measures all decision-relevant application parameters

**Order. no.:** Z.WIN.DME.SS.ER.010

## Pocketwind III


**Measuring functions**
- Wind speed
  - Maximum
  - Average
  - Units m/s, km/h, fpm, mph, kn and bft, switchable
- Temperature / wind chill units °C and °F, switchable

**Features**
- Dual display
- One-button operation for holding data
- Waterproof and shockpro-of housing
- Lanyard
- Integrated hard cover for protection against damage and dirt
- Tripod thread

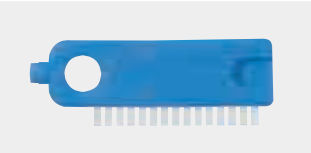
**Advantages**
- The hard cover protects the measuring sensors against damage
- One-hand operation

**Order. no.:** Z.WIN.DME.SS.ER.001

# Farmer’s helpers

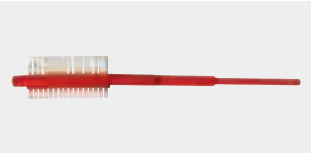
## Accessories

Droplet-size/dosage calculator
Order no. 095.009.50.12.11.4



AD-nozzle cleaning brush and preorifice pick-up
Order no. 06A.D30.56.00

Nozzle assembly wrench
Order no. 092.164.40.00.99.0



Cleaning brush
Order no. 095.009.50.10.89.0

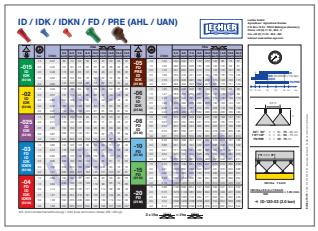
Water sensitive paper
Size: 76 x 26 mm
Order no. Z.WSP.76X.26.00.00.0

Nozzle aligner
Order no. 065.231.02

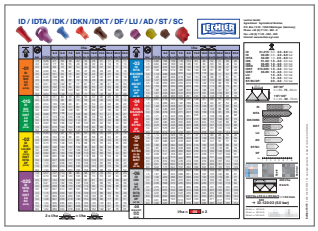
Apple Android

Online nozzle calculator

## Spray tables (sticker)



UAN (A4)



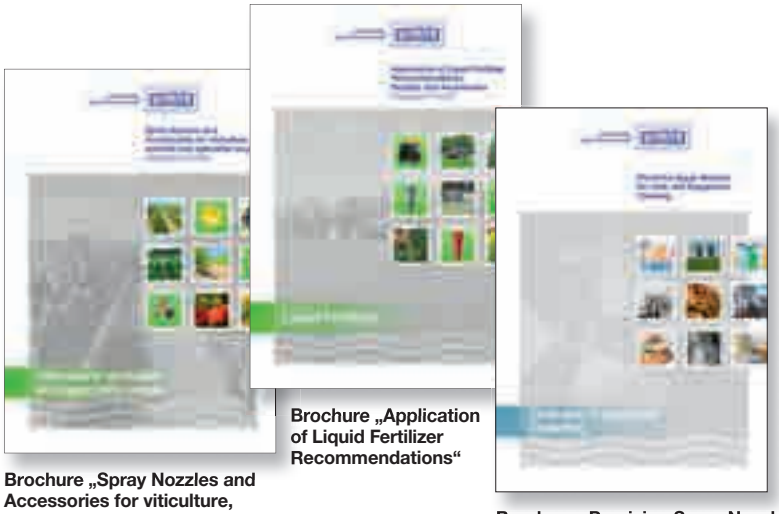
Arable crops (A4)

# YOU CAN FIND MORE INFORMATION IN OUR CATALOGUE AGRICULTURAL SPRAY NOZZLES AND ACCESSORIES ...

Information is available for various applications in our catalogue.

All documents can be downloaded from our website at www.lechler.com. We would also be happy to send you the catalogue.

# ... AND IN OUR BROCHURES



Brochure „Spray Nozzles and Accessories for viticulture, orchard and speciality crops“

Brochure „Application of Liquid Fertilizer Recommendations“

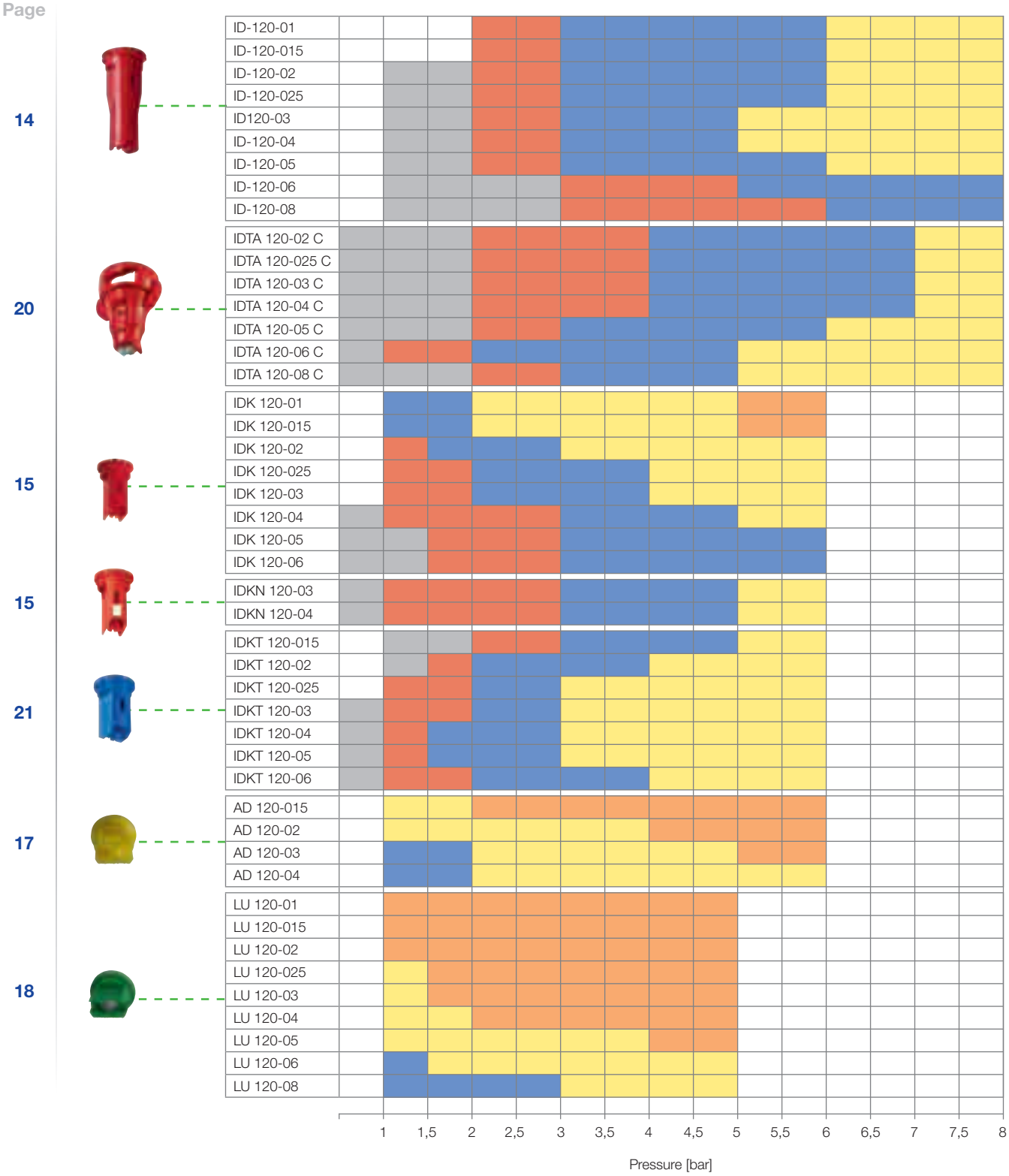
Brochure „Precision Spray Nozzles for Tank and Equipment Cleaning“

# FULL INFORMATION IS JUST A CLICK AWAY: THE LECHLER WEBSITE

Our website contains further information on our products as well as useful resources. In addition to technical data, there is also a droplet-size/ dosage calculator and nozzles recommendations for many crops to help you in your search for the adequate nozzle.

www.lechler-agri.com

# DROPLET SIZE TABLE




**BCPC Droplet size classification**

| | |
|---|---|
| VF | Very fine |
| F | Fine |
| M | Medium |
| C | Coarse |
| VC | Very coarse |
| EC | Extreme Coarse |

Classifications are subject to change

# Spray table

| | bar | 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 | 16.0 km/h | 20.0 km/h | 25.0 km/h | 30.0 km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -01 ID (60 M) IDK LU AD ST (80 M) | 1.5 | 0.28 | 67 | 56 | 48 | 42 | 34 | 28 | 21 | 17 | 13 | 11 |
| | 2.0 | 0.32 | 77 | 64 | 55 | 48 | 38 | 32 | 24 | 19 | 15 | 13 |
| | 2.5 | 0.36 | 86 | 72 | 62 | 54 | 43 | 36 | 27 | 22 | 17 | 14 |
| | 3.0 | 0.39 | 94 | 78 | 67 | 59 | 47 | 39 | 29 | 23 | 19 | 16 |
| | 3.5 | 0.42 | 101 | 84 | 72 | 63 | 50 | 42 | 32 | 25 | 20 | 17 |
| | 4.0 | 0.45 | 108 | 90 | 77 | 68 | 54 | 45 | 34 | 27 | 22 | 18 |
| | 4.5 | 0.48 | 115 | 96 | 82 | 72 | 58 | 48 | 36 | 29 | 23 | 19 |
| | 5.0 | 0.51 | 122 | 102 | 87 | 77 | 61 | 51 | 38 | 31 | 24 | 20 |
| | 6.0 | 0.55 | 132 | 110 | 94 | 83 | 66 | 55 | 41 | 33 | 26 | 22 |
| | 7.0 | 0.60 | 144 | 120 | 103 | 90 | 72 | 60 | 45 | 36 | 29 | 24 |
| | 8.0 | 0.64 | 154 | 128 | 110 | 96 | 77 | 64 | 48 | 38 | 31 | 26 |
| -015 ID IDK (60 M) IDKT LU AD ST (80 M) | 1.5 | 0.42 | 101 | 84 | 72 | 63 | 50 | 42 | 32 | 25 | 20 | 17 |
| | 2.0 | 0.48 | 115 | 96 | 82 | 72 | 58 | 48 | 36 | 29 | 23 | 19 |
| | 2.5 | 0.54 | 130 | 108 | 93 | 81 | 65 | 54 | 41 | 32 | 26 | 22 |
| | 3.0 | 0.59 | 142 | 118 | 101 | 89 | 71 | 59 | 44 | 35 | 28 | 24 |
| | 3.5 | 0.63 | 151 | 126 | 108 | 95 | 76 | 63 | 47 | 38 | 30 | 25 |
| | 4.0 | 0.68 | 163 | 136 | 117 | 102 | 82 | 68 | 51 | 41 | 33 | 27 |
| | 4.5 | 0.72 | 173 | 144 | 123 | 108 | 86 | 72 | 54 | 43 | 35 | 29 |
| | 5.0 | 0.76 | 182 | 152 | 130 | 114 | 91 | 76 | 57 | 46 | 36 | 30 |
| | 6.0 | 0.83 | 199 | 166 | 142 | 125 | 100 | 83 | 62 | 50 | 40 | 33 |
| | 7.0 | 0.90 | 216 | 180 | 154 | 135 | 108 | 90 | 68 | 54 | 43 | 36 |
| | 8.0 | 0.96 | 230 | 192 | 165 | 144 | 115 | 96 | 72 | 58 | 46 | 38 |
| -02 ID IDK LU/AD ST (60 M) IDKT IDTA DF (80 M) | 1.0 | 0.46 | 110 | 92 | 79 | 69 | 55 | 46 | 35 | 28 | 22 | 18 |
| | 1.5 | 0.56 | 134 | 112 | 96 | 84 | 67 | 56 | 42 | 34 | 27 | 22 |
| | 2.0 | 0.65 | 156 | 130 | 111 | 98 | 78 | 65 | 49 | 39 | 31 | 26 |
| | 2.5 | 0.73 | 175 | 146 | 125 | 110 | 88 | 73 | 55 | 44 | 35 | 29 |
| | 3.0 | 0.80 | 192 | 160 | 137 | 120 | 96 | 80 | 60 | 48 | 38 | 32 |
| | 3.5 | 0.86 | 206 | 172 | 147 | 129 | 103 | 86 | 65 | 52 | 41 | 34 |
| | 4.0 | 0.92 | 221 | 184 | 158 | 138 | 110 | 92 | 69 | 55 | 44 | 37 |
| | 4.5 | 0.98 | 235 | 196 | 168 | 147 | 118 | 98 | 74 | 59 | 47 | 39 |
| | 5.0 | 1.03 | 247 | 206 | 177 | 155 | 124 | 103 | 77 | 62 | 49 | 41 |
| | 6.0 | 1.13 | 271 | 226 | 194 | 170 | 136 | 113 | 85 | 68 | 54 | 45 |
| | 7.0 | 1.22 | 293 | 244 | 209 | 183 | 146 | 122 | 92 | 73 | 59 | 49 |
| | 8.0 | 1.30 | 312 | 260 | 223 | 195 | 156 | 130 | 98 | 78 | 62 | 52 |
| -025 ID IDTA IDK IDKT LU SC (60 M) | 1.0 | 0.57 | 137 | 114 | 98 | 86 | 68 | 57 | 43 | 34 | 27 | 23 |
| | 1.5 | 0.70 | 168 | 140 | 120 | 105 | 84 | 70 | 53 | 42 | 34 | 28 |
| | 2.0 | 0.81 | 194 | 162 | 139 | 122 | 97 | 81 | 61 | 49 | 39 | 32 |
| | 2.5 | 0.91 | 218 | 182 | 156 | 137 | 109 | 91 | 68 | 55 | 44 | 36 |
| | 3.0 | 0.99 | 238 | 198 | 170 | 149 | 119 | 99 | 74 | 59 | 48 | 40 |
| | 3.5 | 1.07 | 257 | 214 | 183 | 161 | 128 | 107 | 80 | 64 | 51 | 43 |
| | 4.0 | 1.15 | 276 | 230 | 197 | 173 | 138 | 115 | 86 | 69 | 55 | 46 |
| | 4.5 | 1.22 | 293 | 244 | 209 | 183 | 146 | 122 | 92 | 73 | 59 | 49 |
| | 5.0 | 1.28 | 307 | 256 | 219 | 192 | 154 | 128 | 96 | 77 | 61 | 51 |
| | 6.0 | 1.40 | 336 | 280 | 240 | 210 | 168 | 140 | 105 | 84 | 67 | 56 |
| | 7.0 | 1.52 | 365 | 304 | 261 | 228 | 182 | 152 | 114 | 91 | 73 | 61 |
| | 8.0 | 1.62 | 389 | 324 | 278 | 243 | 194 | 162 | 122 | 97 | 78 | 65 |

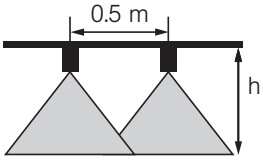
| | bar | l/min |
|---|---|---|
| -03 ID IDTA IDK/IDKN IDKT LU AD/ST SC (60 M) DF (80 M) | 1.0 | 0.69 |
| | 1.5 | 0.84 |
| | 2.0 | 0.97 |
| | 2.5 | 1.08 |
| | 3.0 | 1.19 |
| | 3.5 | 1.28 |
| | 4.0 | 1.37 |
| | 4.5 | 1.46 |
| | 5.0 | 1.53 |
| | 6.0 | 1.68 |
| | 7.0 | 1.81 |
| | 8.0 | 1.94 |
| -04 ID IDTA IDK/IDKN IDKT LU AD ST/SC DF (60 M) | 1.0 | 0.91 |
| | 1.5 | 1.12 |
| | 2.0 | 1.29 |
| | 2.5 | 1.44 |
| | 3.0 | 1.58 |
| | 3.5 | 1.71 |
| | 4.0 | 1.82 |
| | 5.0 | 2.04 |
| | 6.0 | 2.23 |
| | 7.0 | 2.41 |
| | 8.0 | 2.58 |
| -05 ID IDK LU ST/SC (25 M) IDTA IDKT DF (60 M) | 1.0 | 1.14 |
| | 1.5 | 1.39 |
| | 2.0 | 1.61 |
| | 2.5 | 1.80 |
| | 3.0 | 1.97 |
| | 3.5 | 2.13 |
| | 4.0 | 2.28 |
| | 5.0 | 2.55 |
| | 6.0 | 2.79 |
| | 7.0 | 3.01 |
| | 8.0 | 3.22 |
| -06 ID IDK LU ST (25 M) IDTA IDKT DF (60 M) | 1.0 | 1.36 |
| | 1.5 | 1.67 |
| | 2.0 | 1.93 |
| | 2.5 | 2.16 |
| | 3.0 | 2.36 |
| | 3.5 | 2.55 |
| | 4.0 | 2.73 |
| | 5.0 | 3.05 |
| | 6.0 | 3.34 |
| | 7.0 | 3.61 |
| | 8.0 | 3.86 |
| -08 ID/LU/ST (25 M) IDTA (60 M) | | |

2 x l/ha (0.5 m) = l/ha (0.25 m)

| 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** | **16.0 km/h** | **20.0 km/h** | **25.0 km/h** | **30.0 km/h** |
| 166 | 138 | 118 | 104 | 83 | 69 | 52 | 41 | 33 | 28 |
| 202 | 168 | 144 | 126 | 101 | 84 | 63 | 50 | 40 | 34 |
| 233 | 194 | 166 | 146 | 116 | 97 | 73 | 58 | 47 | 39 |
| 259 | 216 | 185 | 162 | 130 | 108 | 81 | 65 | 52 | 43 |
| 286 | 238 | 204 | 179 | 143 | 119 | 89 | 71 | 57 | 48 |
| 307 | 256 | 219 | 192 | 154 | 128 | 96 | 77 | 61 | 51 |
| 329 | 274 | 235 | 206 | 164 | 137 | 103 | 82 | 66 | 55 |
| 350 | 292 | 250 | 219 | 175 | 146 | 110 | 88 | 70 | 58 |
| 367 | 306 | 262 | 230 | 184 | 153 | 115 | 92 | 73 | 61 |
| 403 | 336 | 288 | 252 | 202 | 168 | 126 | 101 | 81 | 67 |
| 434 | 362 | 310 | 272 | 217 | 181 | 136 | 109 | 87 | 72 |
| 466 | 388 | 333 | 291 | 233 | 194 | 146 | 116 | 93 | 78 |
| 218 | 182 | 156 | 137 | 109 | 91 | 68 | 55 | 44 | 36 |
| 269 | 224 | 192 | 168 | 134 | 112 | 84 | 67 | 54 | 45 |
| 310 | 258 | 221 | 194 | 155 | 129 | 97 | 77 | 62 | 52 |
| 346 | 288 | 247 | 216 | 173 | 144 | 108 | 86 | 69 | 58 |
| 379 | 316 | 271 | 237 | 190 | 158 | 119 | 95 | 76 | 63 |
| 410 | 342 | 293 | 257 | 205 | 171 | 128 | 103 | 82 | 68 |
| 437 | 364 | 312 | 273 | 218 | 182 | 137 | 109 | 87 | 73 |
| 490 | 408 | 350 | 306 | 245 | 204 | 153 | 122 | 98 | 82 |
| 535 | 446 | 382 | 335 | 268 | 223 | 167 | 134 | 107 | 89 |
| 578 | 482 | 413 | 362 | 289 | 241 | 181 | 145 | 116 | 96 |
| 619 | 516 | 442 | 387 | 310 | 258 | 194 | 155 | 124 | 103 |
| 274 | 228 | 195 | 171 | 137 | 114 | 86 | 68 | 55 | 46 |
| 334 | 278 | 238 | 209 | 167 | 139 | 104 | 83 | 67 | 56 |
| 386 | 322 | 276 | 242 | 193 | 161 | 121 | 97 | 77 | 64 |
| 432 | 360 | 309 | 270 | 216 | 180 | 135 | 108 | 86 | 72 |
| 473 | 394 | 338 | 296 | 236 | 197 | 148 | 118 | 95 | 79 |
| 511 | 426 | 365 | 320 | 256 | 213 | 160 | 128 | 102 | 85 |
| 547 | 456 | 391 | 342 | 274 | 228 | 171 | 137 | 109 | 91 |
| 612 | 510 | 437 | 383 | 306 | 255 | 191 | 153 | 122 | 102 |
| 670 | 558 | 478 | 419 | 335 | 279 | 209 | 167 | 134 | 112 |
| 722 | 602 | 516 | 452 | 361 | 301 | 226 | 181 | 144 | 120 |
| 773 | 644 | 552 | 483 | 386 | 322 | 242 | 193 | 155 | 129 |
| 326 | 272 | 233 | 204 | 163 | 136 | 102 | 82 | 65 | 54 |
| 401 | 334 | 286 | 251 | 200 | 167 | 125 | 100 | 80 | 67 |
| 463 | 386 | 331 | 290 | 232 | 193 | 145 | 116 | 93 | 77 |
| 518 | 432 | 370 | 324 | 259 | 216 | 162 | 130 | 104 | 86 |
| 566 | 472 | 405 | 354 | 283 | 236 | 177 | 142 | 113 | 94 |
| 612 | 510 | 437 | 383 | 306 | 255 | 191 | 153 | 122 | 102 |
| 655 | 546 | 468 | 410 | 328 | 273 | 205 | 164 | 131 | 109 |
| 732 | 610 | 523 | 458 | 366 | 305 | 229 | 183 | 146 | 122 |
| 802 | 668 | 573 | 501 | 401 | 334 | 251 | 200 | 160 | 134 |
| 866 | 722 | 619 | 542 | 433 | 361 | 271 | 217 | 173 | 144 |
| 926 | 772 | 662 | 579 | 463 | 386 | 290 | 232 | 185 | 154 |

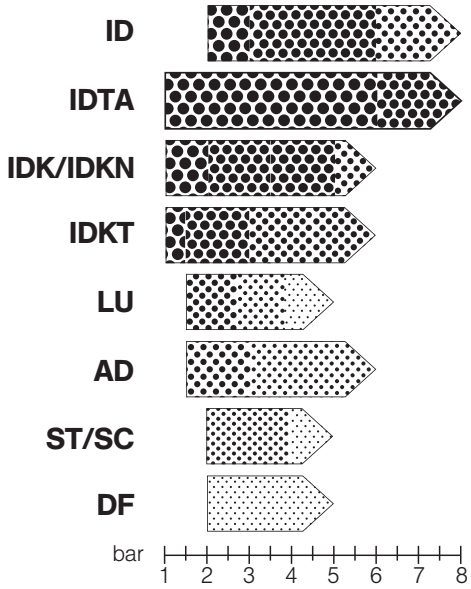
**l/ha = -04 x 2**

| | | |
|---|---|---|
| **ID** | **01-015:** | 3.0 - **4.0 - 8.0** bar |
| **ID** | **02-08:** | 2.0 - **4.0 - 8.0** bar |
| **IDTA** | **02-08:** | 1.0 - **4.0 - 8.0** bar |
| **IDK** | **01-03:** | **1.5 - 3.0** - 6.0 bar |
| **IDK** | **04-06:** | **1.0 - 3.0** - 6.0 bar |
| **IDKN** | **03-04:** | **1.0 - 3.0** - 6.0 bar |
| **IDKT** | **015-025:** | **1.5 - 3.0** - 6.0 bar |
| **IDKT** | **03-06:** | **1.0 - 3.0** - 6.0 bar |
| **LU:** | | **1.5 - 2.5** - 5.0 bar |
| **AD:** | | **1.5 - 3.0** - 6.0 bar |
| **ST/SC/DF:** | | **2.0 - 3.0** - 5.0 bar |

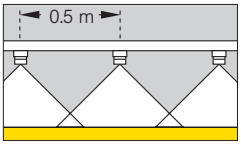



**80°/90°**
h = 60 - **75** - 90 cm

**110°/120°**
h = 40 - **50** - 70 cm




Apple Android




**230 l/ha**
**8 km/h**

$$\frac{230 \text{ l/ha} \times 0.5 \text{ m} \times 8.0 \text{ km/h}}{600} = 1.53 \text{ l/min}$$

**→ ID-120-03 (5.0 bar)**

60 sec. = 6.0 km/h
45 sec. = 8.0 km/h
36 sec. = 10.0 km/h

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**Edition 07/16** · EN · 1.500 · M-2016-3550-120 · www.dgm-walliser.de · S · Subject to technical modification.