

# HYPRO<sup>®</sup> NOZZLES

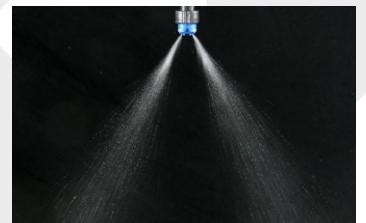
## GUARDIAN AIR<sup>™</sup> TWIN

A TWIN AIR-INDUCTION NOZZLE IN INTEGRAL FASTCAP<sup>™</sup>



### FEATURES & BENEFITS

- Produces the smallest air-included droplets\* for more drops per litre and the best possible spray coverage from an air-induction nozzle
- Two 110° flat fan sprays directed at 30° inclines, one forward and the other backward
  - Improves coverage on upright targets and soil clods
  - 30° incline helps penetrate spray into denser crop or weed canopies
- Flow is metered by a single pre-orifice so the twin nozzle outlets are of a similar size to those of a standard flat fan nozzle
- 50-75% drift reduction at lower pressures
  - Classified to LERAP 2 ★ and JKI 50% drift reduction level
- New style integral FastCap<sup>™</sup> twists smoothly onto standard EF3 nozzle holders including Hypro's ProFlo<sup>™</sup>, Arag and Teejet
- Dust is sealed out by the locking ring to reduce contamination when removing the nozzle from the sprayer
- Compact design to reduce the risk of impact damage
- Nozzle filter can be fitted as an option where required








Incorporates the spray technology of the proven GuardianAIR<sup>™</sup> nozzle to provide an excellent balance between drift reduction and spray coverage.



# HYPRO® NOZZLES

## GUARDIAN AIR™ TWIN

### NOZZLE SELECTION GUIDELINES

|        | CROP STAGE AND CHEMICAL TYPE:                  | TARGET:                                    | APPLICATION CHALLENGE:                      | FLAT FAN  |  | AIR INDUCTION   |   |   |
|--------|--|--|---|---|--|---|---|---|
|        |  |  |   | MEDIUM  |  | FINER   |   | COARSER   |
|        |  |  |   |  |  |  |  |  |
| VP     | VPTECH™<br>30° INCLINE                         | GUARDIAN AIR™<br>12-15° INCLINE            | GUARDIAN AIR™ TWIN<br>30° INCLINE           | ULD /<br>DRIFT BETA   |  |   |   |   |
| AUTUMN | SOIL-ACTING PRE OR EARLY POST-EM HERBICIDES    | SOIL                                       | EVEN COVERAGE OF SOIL CLOUDS                |   |  |   |   |   |
|        | INSECTICIDES                                   | SMALL OSR OR CEREAL PLANTS                 | SMALL TARGET AREA TO WET                    |   |  |   |   |   |
|        | POST-EM SELECTIVE HERBICIDES                   | SMALL GRASSES (LESS THAN 3 LEAVES)         | SMALL TARGET AREA, WEED SHADING             |   |  |   |   |   |
| SPRING | POST-EM SELECTIVE HERBICIDES                   | GRASSES (MORE THAN 3 LEAVES)               | VERTICAL TARGET ORIENTATION                 |   |  |   |   |   |
|        | POST-EM SELECTIVE HERBICIDES                   | BROAD-LEAVED WEEDS (UP TO 2 CM ACROSS)     | SMALL TARGET AREA, CONSIDER WEED SHADING    |   |  |   |   |   |
|        | POST-EM SELECTIVE HERBICIDES                   | BROAD-LEAVED WEEDS (2 - 5 CM ACROSS)       | CONSIDER WEED SHADING                       |   |  |   |   |   |
|        | POST-EM SELECTIVE HERBICIDES                   | BROAD-LEAVED WEEDS (MORE THAN 5 CM ACROSS) | PENETRATE INTO CROP CANOPY                  |   |  |   |   |   |
|        | EYESPOT FUNGICIDES AND PLANT GROWTH REGULATORS | CROP STEM AND LOWER LEAVES                 | PENETRATION TO BASE OF CROP                 |   |  |   |   |   |
|        | CEREAL FUNGICIDES T0, T1, T2                   | CROP LEAVES AND LEAF AXILS                 | PENETRATE CROP CANOPY                       |   |  |   |   |   |
|        | OSR FOLIAR FUNGICIDES                          | CROP LEAVES                                | COVERAGE FROM TOP TO BASE                   |   |  |   |   |   |
| SUMMER | POTATO BLIGHT FUNGICIDES                       | CROP LEAVES AND STEMS                      | KEEP WATER RATES UP FOR GOOD COVERAGE       |   |  |   |   |   |
|        | EAR FUNGICIDES (T3) AND APHICIDES              | CROP EAR                                   | CONTACT ACTION IMPORTANT                    |   |  |   |   |   |
|        | DESICCATION WITH CONTACT ACTING HERBICIDE      | CROP LEAVES AND STEMS                      | KEEP WATER RATES UP FOR GOOD SPRAY COVERAGE |   |  |   |   |   |
|        | GLYPHOSATE                                     | LARGER WEEDS AND CROP DESICCATION          | NOT OVER-WETTING LEAF                       |   |  |   |   |   |

Best for efficacy  Urgent spraying only   
 Acceptable efficacy  Not suitable 

Application guidelines are given for 3 bar pressure, 10-16 kph. At these pressures finer air induction nozzles such as GuardianAIR™ Twin typically reduce drift by 50%, whilst coarser air induction nozzles such as DriftBETA and ULD typically reduce drift by over 75%.

Always refer to the product label or the latest application advice from the agrochemical manufacturer before selecting a spray quality.

# HYPRO® NOZZLES

## GUARDIAN AIR™ TWIN

### PART NO: GAT110-02PK10

| Nozzle    | Pressure | Flow  | Litres/hectare @ Km/h |     |     |     |    |    |    |
|-----------|----------|-------|-----------------------|-----|-----|-----|----|----|----|
|           | Bar      | L/min | 6                     | 8   | 10  | 12  | 14 | 16 | 18 |
| <b>02</b> | 2        | 0.653 | 131                   | 98  | 78  | 65  | 56 | 49 | 44 |
|           | 3        | 0.800 | 160                   | 120 | 96  | 80  | 69 | 60 | 53 |
|           | 4        | 0.924 | 185                   | 139 | 111 | 92  | 79 | 69 | 62 |
|           | 5        | 1.033 | 207                   | 155 | 124 | 103 | 89 | 77 | 69 |
|           | 6        | 1.131 | 226                   | 170 | 136 | 113 | 97 | 85 | 75 |

### PART NO: GAT110-025PK10

| Nozzle     | Pressure | Flow  | Litres/hectare @ Km/h |     |     |     |     |     |    |
|------------|----------|-------|-----------------------|-----|-----|-----|-----|-----|----|
|            | Bar      | L/min | 6                     | 8   | 10  | 12  | 14  | 16  | 18 |
| <b>025</b> | 2        | 0.816 | 163                   | 122 | 98  | 82  | 70  | 61  | 54 |
|            | 3        | 1.000 | 200                   | 150 | 120 | 100 | 86  | 75  | 67 |
|            | 4        | 1.155 | 231                   | 173 | 139 | 115 | 99  | 87  | 77 |
|            | 5        | 1.291 | 258                   | 194 | 155 | 129 | 111 | 97  | 86 |
|            | 6        | 1.414 | 283                   | 212 | 170 | 141 | 121 | 106 | 94 |

### PART NO: GAT110-03PK10

| Nozzle    | Pressure | Flow  | Litres/hectare @ Km/h |     |     |     |     |     |     |
|-----------|----------|-------|-----------------------|-----|-----|-----|-----|-----|-----|
|           | Bar      | L/min | 6                     | 8   | 10  | 12  | 14  | 16  | 18  |
| <b>03</b> | 2        | 0.980 | 196                   | 147 | 118 | 98  | 84  | 73  | 65  |
|           | 3        | 1.200 | 240                   | 180 | 144 | 120 | 103 | 90  | 80  |
|           | 4        | 1.386 | 277                   | 208 | 166 | 139 | 119 | 104 | 92  |
|           | 5        | 1.549 | 310                   | 232 | 186 | 155 | 133 | 116 | 103 |
|           | 6        | 1.697 | 339                   | 255 | 204 | 170 | 145 | 127 | 113 |

### PART NO: GAT110-035PK10\*

| Nozzle     | Pressure | Flow  | Litres/hectare @ Km/h |     |     |     |     |     |     |
|------------|----------|-------|-----------------------|-----|-----|-----|-----|-----|-----|
|            | Bar      | L/min | 6                     | 8   | 10  | 12  | 14  | 16  | 18  |
| <b>035</b> | 2        | 1.143 | 229                   | 171 | 137 | 114 | 98  | 86  | 76  |
|            | 3        | 1.400 | 280                   | 210 | 168 | 140 | 120 | 105 | 93  |
|            | 4        | 1.616 | 323                   | 242 | 194 | 162 | 139 | 121 | 108 |
|            | 5        | 1.807 | 361                   | 271 | 217 | 181 | 155 | 136 | 120 |
|            | 6        | 1.980 | 396                   | 297 | 238 | 198 | 170 | 148 | 132 |

### PART NO: GAT110-04PK10

| Nozzle    | Pressure | Flow  | Litres/hectare @ Km/h |     |     |     |     |     |     |
|-----------|----------|-------|-----------------------|-----|-----|-----|-----|-----|-----|
|           | Bar      | L/min | 6                     | 8   | 10  | 12  | 14  | 16  | 18  |
| <b>04</b> | 2        | 1.306 | 261                   | 196 | 157 | 131 | 112 | 98  | 87  |
|           | 3        | 1.600 | 320                   | 240 | 192 | 160 | 137 | 120 | 107 |
|           | 4        | 1.848 | 370                   | 277 | 222 | 185 | 158 | 139 | 123 |
|           | 5        | 2.066 | 413                   | 310 | 248 | 207 | 177 | 155 | 138 |
|           | 6        | 2.263 | 453                   | 339 | 272 | 226 | 194 | 170 | 151 |

### PART NO: GAT110-05PK10

| Nozzle    | Pressure | Flow  | Litres/hectare @ Km/h |     |     |     |     |     |     |
|-----------|----------|-------|-----------------------|-----|-----|-----|-----|-----|-----|
|           | Bar      | L/min | 6                     | 8   | 10  | 12  | 14  | 16  | 18  |
| <b>05</b> | 2        | 1.633 | 327                   | 245 | 196 | 163 | 140 | 122 | 109 |
|           | 3        | 2.000 | 400                   | 300 | 240 | 200 | 171 | 150 | 133 |
|           | 4        | 2.309 | 462                   | 346 | 277 | 231 | 198 | 173 | 154 |
|           | 5        | 2.582 | 516                   | 387 | 310 | 258 | 221 | 194 | 172 |
|           | 6        | 2.828 | 566                   | 424 | 339 | 283 | 242 | 212 | 189 |

### PART NO: GAT110-06PK10

| Nozzle    | Pressure | Flow  | Litres/hectare @ Km/h |     |     |     |     |     |     |
|-----------|----------|-------|-----------------------|-----|-----|-----|-----|-----|-----|
|           | Bar      | L/min | 6                     | 8   | 10  | 12  | 14  | 16  | 18  |
| <b>06</b> | 2        | 1.960 | 392                   | 294 | 235 | 196 | 168 | 147 | 131 |
|           | 3        | 2.400 | 480                   | 360 | 288 | 240 | 206 | 180 | 160 |
|           | 4        | 2.771 | 554                   | 416 | 333 | 277 | 238 | 208 | 185 |
|           | 5        | 3.098 | 620                   | 465 | 372 | 310 | 266 | 232 | 207 |
|           | 6        | 3.394 | 679                   | 509 | 407 | 339 | 291 | 255 | 226 |


### PART NO: GAT110-08PK10

| Nozzle    | Pressure | Flow  | Litres/hectare @ Km/h |     |     |     |     |     |     |
|-----------|----------|-------|-----------------------|-----|-----|-----|-----|-----|-----|
|           | Bar      | L/min | 6                     | 8   | 10  | 12  | 14  | 16  | 18  |
| <b>08</b> | 2        | 2.613 | 523                   | 392 | 314 | 261 | 224 | 196 | 174 |
|           | 3        | 3.200 | 640                   | 480 | 384 | 320 | 274 | 240 | 213 |
|           | 4        | 3.695 | 739                   | 554 | 443 | 370 | 317 | 277 | 246 |
|           | 5        | 4.131 | 826                   | 620 | 496 | 413 | 354 | 310 | 275 |
|           | 6        | 4.525 | 905                   | 679 | 543 | 453 | 388 | 339 | 302 |

Application rates shown are based on tests at 3 bar and 50 cm nozzle spacing. Supplied in packs of 10, use the numbers shown. For individual nozzles delete 'PK10' and add 'A'.

NB: GuardianAIR™ Twin nozzles are metered through a single orifice, unlike two individual nozzles fitted in a TwinCap.

## DRIFT REDUCTION CLASSIFICATIONS

|             | LERAP<br>★     | LERAP<br>★★    |  |                |
|-------------|----------------|----------------|---|----------------|
|             | 25-50%         | 50-75%         | Approval #  | 50%            |
| <b>02</b>   | 2.25 - 2.5 bar | 2.0 - 2.25 bar |   |                |
| <b>025</b>  | 2.25 - 2.5 bar | 2.0 - 2.25 bar | G-1872  | 2.0 - 2.5 bar  |
| <b>03</b>   | 3.0 - 4.0 bar  | 2.0 - 3.0 bar  | G-1874  | 2.0 - 3.0 bar  |
| <b>035*</b> | 3.0 - 4.0 bar* | 2.0 - 3.0 bar* |   | 2.0 - 3.0 bar* |
| <b>04</b>   | 2.0 - 3.0 bar  | -              | G-1875  | 2.0 - 2.5 bar  |
| <b>05</b>   | 3.0 - 3.5 bar  | 2.0 - 3.0 bar  | G-1876  | 2.0 - 3.0 bar  |
| <b>06</b>   | 3.0 - 3.5 bar  | 2.0 - 3.0 bar  | G-1877  | 2.0 - 4.0 bar  |
| <b>08</b>   | 3.0 - 4.0 bar  | 2.0 - 3.0 bar  | G-1878  | 2.0 - 6.0 bar  |

\* New size 035 introduced summer 2013.

\* Drift performance to be confirmed.

★★★ 3-star LERAP - At least 75% reduction in drift

★★ 2-star LERAP - 50 to 75% reduction in drift

LERAP drift ratings are compared with reference F110/ 1.2/3.0 nozzles. Approvals are at the pressures shown for nozzles 0.5 m above the target at 6-12 kph.



JKI drift ratings are compared with reference F110/ 1.2/3.0 and FRD110/1.0/3.0 nozzles. Approvals are at pressures shown for nozzles 0.5 m above the target.

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## GUARDIAN AIR™ TWIN

### FITTING AND CLEANING GUIDELINES - NEW FASTCAP™

To fit Fastcap™ to bayonet;

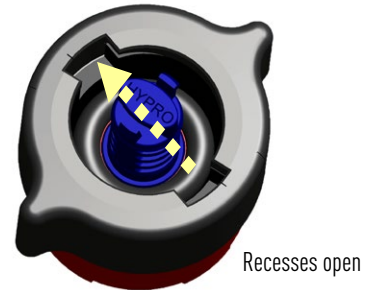
- First ensure the sealing ring is in place and Fastcap™ recesses are open
- Align the bayonet lugs of nozzle holder with the recesses in the FastCap™
- Twist clockwise to lock

To dismantle the nozzle for cleaning;

- Push the top of the cage insert towards one of the open recesses, as shown by the arrow in the diagram on the right
- Slide all of the inserts out of the bayonet cap as one unit
- Parts will separate as shown below, and can be soaked

To reassemble;

- First push together the 2 piece insert, cage insert and two 'O' seals, ensuring that the flats on the two insert flanges are aligned with each other
- Place the insert assembly back into the bayonet cap, ensuring that the flats on the 2 piece insert are aligned with the flats in the recess of the nozzle body
- Once it is sitting in the recess, gently push down on the cage insert using light pressure until you hear it click.



Large 'O' Ring  
Part#: 65-BS205

Cage insert  
Part#: 30Q3579A

2 piece insert

Small 'O' Ring

Nozzle body

The cage insert can be replaced with a filter if required. To order a GuardianAIR™ Twin nozzle with a 50 mesh filter, use the same part number omitting the 'A' (e.g. GAT110-03). Polypropylene GuardianAIR™ Twin nozzle filters are also available as spares.

TS02-100 (100#)

TS02-50 (50#)



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