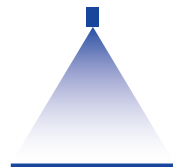


# Low pressure flat fan nozzles

## Series 646

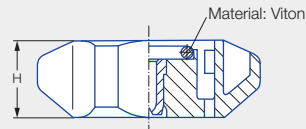
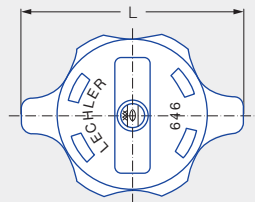
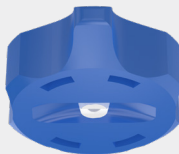


### Features:

- Uniform, parabolic liquid distribution
- Adjusted spray direction
- Simple, fast manual assembly due to bayonet quick-release system

### Applications:

- Belt cleaning
- Surface treatment
- Spray cleaning
- Coating processes



Series 646

| Dimensions [mm] |      | Weight [g] |
|-----------------|------|------------|
| H               | L    |            |
| 15.0            | 44.0 | 12.0       |

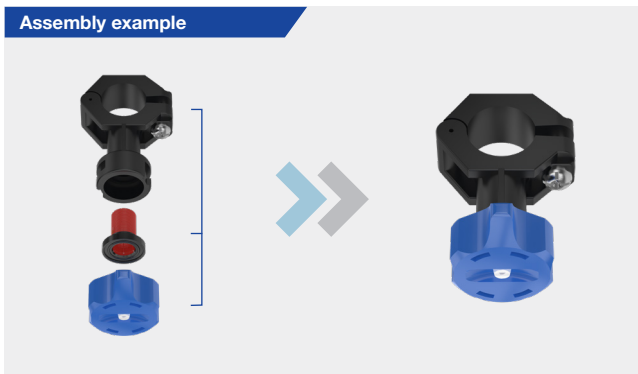
| Spray angle | Ordering no. |          | Equivalent bore diameter A [mm] | Narrowest free cross section Ø [mm] | V̇ water [l/min] |       |      |      |      |      | Spray width B [mm] (at p = 5 bar)                                                     |                                                                                       |
|-------------|--------------|----------|---------------------------------|-------------------------------------|------------------|-------|------|------|------|------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|             | Type         | Mat. no. |                                 |                                     | p [bar]          |       |      |      |      |      |  |  |
|             |              | 5E       |                                 |                                     |                  |       |      |      |      |      |                                                                                       |                                                                                       |
|             |              | PVDF     |                                 |                                     |                  |       |      |      |      |      |                                                                                       |                                                                                       |
|             |              |          |                                 |                                     | 0.5              | 1.0   | 2.0  | 3.0  | 5.0  | 10.0 | H = 250 [mm]                                                                          | H = 500 [mm]                                                                          |
| 20°         | 646.301      | ●        | 0.70                            | 0.60                                | 0.16*            | 0.23* | 0.32 | 0.39 | 0.51 | 0.72 | 85                                                                                    | 160                                                                                   |
|             | 646.361      | ●        | 1.00                            | 0.80                                | 0.31*            | 0.44* | 0.63 | 0.77 | 1.00 | 1.41 | 85                                                                                    | 160                                                                                   |
|             | 646.441      | ●        | 1.35                            | 1.10                                | 0.63*            | 0.88  | 1.25 | 1.53 | 1.98 | 2.80 | 85                                                                                    | 160                                                                                   |
|             | 646.481      | ●        | 1.50                            | 1.20                                | 0.80*            | 1.13  | 1.60 | 1.96 | 2.53 | 3.58 | 85                                                                                    | 160                                                                                   |
| 30°         | 646.302      | ●        | 0.70                            | 0.50                                | 0.16*            | 0.23* | 0.32 | 0.39 | 0.51 | 0.72 | 120                                                                                   | 220                                                                                   |
|             | 646.362      | ●        | 1.00                            | 0.70                                | 0.31*            | 0.44* | 0.63 | 0.77 | 1.00 | 1.40 | 120                                                                                   | 220                                                                                   |
|             | 646.402      | ●        | 1.20                            | 0.90                                | 0.50*            | 0.71  | 1.00 | 1.22 | 1.58 | 2.24 | 120                                                                                   | 230                                                                                   |
|             | 646.482      | ●        | 1.50                            | 1.10                                | 0.80*            | 1.13  | 1.60 | 1.96 | 2.53 | 3.58 | 130                                                                                   | 230                                                                                   |
|             | 646.562      | ●        | 2.00                            | 1.50                                | 1.25             | 1.77  | 2.50 | 3.06 | 3.95 | 5.59 | 130                                                                                   | 240                                                                                   |
| 45°         | 646.363      | ●        | 1.00                            | 0.60                                | 0.31*            | 0.44* | 0.63 | 0.77 | 1.00 | 1.40 | 190                                                                                   | 350                                                                                   |
|             | 646.403      | ●        | 1.20                            | 0.90                                | 0.50*            | 0.71  | 1.00 | 1.23 | 1.58 | 2.24 | 200                                                                                   | 370                                                                                   |
|             | 646.483      | ●        | 1.50                            | 1.10                                | 0.80*            | 1.13  | 1.60 | 1.96 | 2.53 | 3.58 | 200                                                                                   | 390                                                                                   |
|             | 646.563      | ●        | 2.00                            | 1.40                                | 1.20             | 1.77  | 2.50 | 3.06 | 3.95 | 5.59 | 210                                                                                   | 410                                                                                   |
|             | 646.643      | ●        | 2.50                            | 1.80                                | 2.00             | 2.83  | 4.00 | 4.90 | 6.32 | 8.94 | 210                                                                                   | 410                                                                                   |
| 60°         | 646.304      | ●        | 0.70                            | 0.40                                | 0.16*            | 0.23* | 0.32 | 0.39 | 0.51 | 0.72 | 260                                                                                   | 480                                                                                   |
|             | 646.334      | ●        | 0.90                            | 0.50                                | 0.23*            | 0.32* | 0.45 | 0.55 | 0.71 | 1.01 | 260                                                                                   | 490                                                                                   |
|             | 646.364      | ●        | 1.00                            | 0.60                                | 0.32*            | 0.45* | 0.63 | 0.77 | 1.00 | 1.41 | 260                                                                                   | 500                                                                                   |
|             | 646.404      | ●        | 1.20                            | 0.80                                | 0.50*            | 0.71  | 1.00 | 1.22 | 1.58 | 2.24 | 260                                                                                   | 510                                                                                   |
|             | 646.444      | ●        | 1.35                            | 0.90                                | 0.63*            | 0.88  | 1.25 | 1.53 | 1.98 | 2.80 | 260                                                                                   | 510                                                                                   |
|             | 646.484      | ●        | 1.50                            | 1.00                                | 0.80*            | 1.13  | 1.60 | 1.96 | 2.53 | 3.58 | 260                                                                                   | 520                                                                                   |
|             | 646.514      | ●        | 1.65                            | 1.10                                | 0.95*            | 1.34  | 1.90 | 2.33 | 3.00 | 4.25 | 270                                                                                   | 520                                                                                   |
|             | 646.564      | ●        | 2.00                            | 1.30                                | 1.25             | 1.77  | 2.50 | 3.06 | 3.95 | 5.59 | 270                                                                                   | 530                                                                                   |
|             | 646.604      | ●        | 2.20                            | 1.50                                | 1.58             | 2.23  | 3.15 | 3.86 | 4.98 | 7.04 | 270                                                                                   | 540                                                                                   |





| Spray angle | Ordering no. |          | Equivalent bore diameter<br>A<br>[mm] | Narrowest free cross section<br>Ø<br>[mm] | V̇ water [l/min] |       |      |      |      |      | Spray width B<br>[mm]<br>(at p = 5 bar)                                             |       |
|-------------|--------------|----------|---------------------------------------|-------------------------------------------|------------------|-------|------|------|------|------|-------------------------------------------------------------------------------------|-------|
|             | Type         | Mat. no. |                                       |                                           | p [bar]          |       |      |      |      |      |  |       |
|             |              | 5E       |                                       |                                           |                  |       |      |      |      |      |                                                                                     |       |
|             |              | PVDF     |                                       |                                           | 0.5              | 1.0   | 2.0  | 3.0  | 5.0  | 10.0 |                                                                                     |       |
| 90°         | 646.306      | ●        | 0.70                                  | 0.40                                      | 0.16*            | 0.23* | 0.32 | 0.39 | 0.51 | 0.72 | 440                                                                                 | 800   |
|             | 646.336      | ●        | 0.90                                  | 0.50                                      | 0.23*            | 0.32* | 0.45 | 0.55 | 0.71 | 1.01 | 440                                                                                 | 820   |
|             | 646.366      | ●        | 1.00                                  | 0.50                                      | 0.32*            | 0.45* | 0.63 | 0.77 | 1.00 | 1.41 | 450                                                                                 | 830   |
|             | 646.406      | ●        | 1.20                                  | 0.70                                      | 0.50*            | 0.71  | 1.00 | 1.22 | 1.58 | 2.24 | 450                                                                                 | 840   |
|             | 646.446      | ●        | 1.35                                  | 0.80                                      | 0.63*            | 0.88  | 1.25 | 1.53 | 1.98 | 2.80 | 460                                                                                 | 860   |
|             | 646.486      | ●        | 1.50                                  | 0.80                                      | 0.80*            | 1.13  | 1.60 | 1.96 | 2.53 | 3.58 | 470                                                                                 | 870   |
|             | 646.516      | ●        | 1.65                                  | 0.90                                      | 0.95*            | 1.34  | 1.90 | 2.33 | 3.00 | 4.25 | 480                                                                                 | 880   |
|             | 646.566      | ●        | 2.00                                  | 1.10                                      | 1.25             | 1.77  | 2.50 | 3.06 | 3.95 | 5.59 | 490                                                                                 | 900   |
| 646.606     | ●            | 2.20     | 1.20                                  | 1.58                                      | 2.23             | 3.15  | 3.86 | 4.98 | 7.04 | 500  | 910                                                                                 |       |
| 120°        | 646.307      | ●        | 0.70                                  | 0.30                                      | 0.16*            | 0.23* | 0.32 | 0.39 | 0.51 | 0.72 | 710                                                                                 | 1,240 |
|             | 646.337      | ●        | 0.90                                  | 0.40                                      | 0.23*            | 0.32* | 0.45 | 0.55 | 0.71 | 1.01 | 740                                                                                 | 1,310 |
|             | 646.367      | ●        | 1.00                                  | 0.50                                      | 0.32*            | 0.45* | 0.63 | 0.77 | 1.00 | 1.41 | 800                                                                                 | 1,350 |
|             | 646.407      | ●        | 1.20                                  | 0.60                                      | 0.50*            | 0.71  | 1.00 | 1.22 | 1.58 | 2.24 | 830                                                                                 | 1,390 |
|             | 646.447      | ●        | 1.35                                  | 0.60                                      | 0.63*            | 0.88  | 1.25 | 1.53 | 1.98 | 2.80 | 840                                                                                 | 1,410 |
|             | 646.487      | ●        | 1.50                                  | 0.60                                      | 0.80*            | 1.13  | 1.60 | 1.96 | 2.53 | 3.58 | 850                                                                                 | 1,420 |
|             | 646.517      | ●        | 1.65                                  | 0.90                                      | 0.95*            | 1.34  | 1.90 | 2.33 | 3.00 | 4.25 | 850                                                                                 | 1,430 |
|             | 646.567      | ●        | 2.00                                  | 0.90                                      | 1.25             | 1.77  | 2.50 | 3.06 | 3.95 | 5.59 | 870                                                                                 | 1,440 |
| 646.607     | ●            | 2.20     | 1.10                                  | 1.58                                      | 2.23             | 3.15  | 3.86 | 4.98 | 7.04 | 870  | 1,450                                                                               |       |

\* Differing spray pattern.



Conversion formula for this series:  $\dot{V}_2 = \dot{V}_1 \cdot \sqrt{\frac{p_2}{p_1}}$

Ordering Type + Material no. = Ordering no.  
example: 646.306 + 5E = 646.306\*

 Assembly accessories can be found in Chapter 9 “Accessories”.

