

ENGINEERING
YOUR SPRAY SOLUTION



NEW

Full Cone Nozzles Series 419



FreeFlow

Every millimeter counts.
Clog-proof atomization.

- Resists clogging
- Unique swirl insert design
- Variable connection options



Material
316L SS
Castings 316 SS



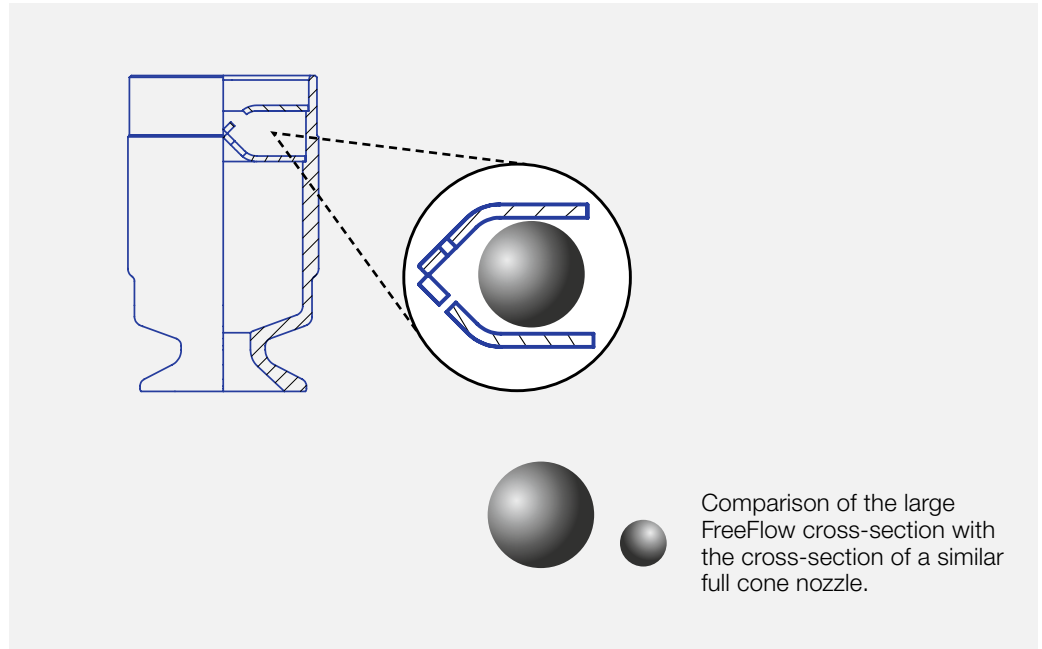
Max. temperature
400 °C



Recommended operating pressure
1 bar

Applications:

Gas washing
Spraying over packings
Dust control
Absorption
Distillation



Comparison of the large FreeFlow cross-section with the cross-section of a similar full cone nozzle.

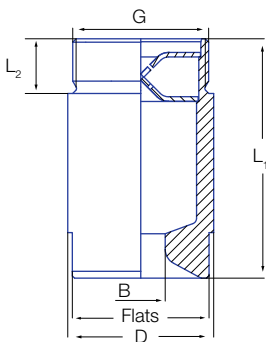


Figure 1

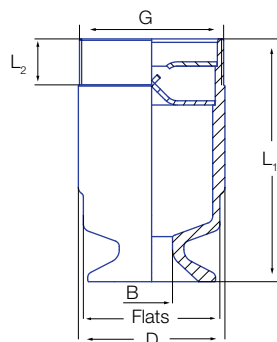


Figure 2

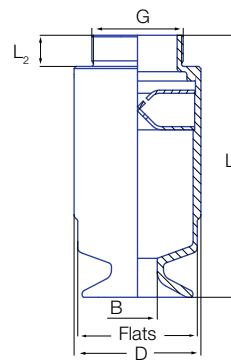
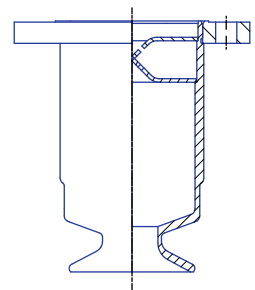


Figure 3





Other Materials and flange versions are available on request.

Nozzle-dimensions

| Spray angle | Type | Code | Figure | Dimensions [mm] | | | | | Weight |
|------------------|--------------------|------|--------|-------------------|----------------|----------------|-----|-------|---------|
| | | | | G BSPP male | L ₁ | L ₂ | D | Flats | |
| 90° + 120° | 419.3XX | AR | 3 | G 1 1/2 | 132 | 22 | 64 | 60 | 1,500 g |
| | | AV | 1 | G 2 | 105 | 24 | 64 | 60 | 1,200 g |
| | 419.4XX | AV | 3 | G 2 | 163 | 24 | 80 | 75 | 2,000 g |
| | | AY | 2 | G 2 1/2 | 134 | 27 | 80 | 75 | 1,700 g |
| | 419.51X 419.54X | AV | 3 | G 2 | 199 | 24 | 102 | 95 | 3,700 g |
| | | AY | 3 | G 2 1/2 | 202 | 27 | 102 | 95 | 3,800 g |
| | | LA | 3 | G 3 | 205 | 30 | 102 | 95 | 5,200 g |
| | | LC | 2 | G 3 1/2 | 169 | 32 | 102 | 95 | 3,200 g |
| | 419.57X | AY | 3 | G 2 1/2 | 231 | 27 | 115 | 105 | 5,200 g |
| | | LA | 3 | G 3 | 233 | 30 | 115 | 105 | 5,200 g |
| | | LE | 2 | G 4 | 194 | 36 | 115 | 105 | 4,400 g |
| | 419.6XX | LA | 3 | G 3 | 252 | 30 | 122 | 115 | 5,400 g |
| | | LC | 3 | G 3 1/2 | 254 | 32 | 122 | 115 | 5,500 g |

G = Thread size · L₁ = Total Length · L₂ = Thread length · D = Outer diameter · Flats = Wrench size



| Spray angle*  | Ordering no. | | | | | | | | | B Ø [mm] | E Ø [mm] | V̇ [l/min] | | | | | Spray diameter D [mm] at p = 1 bar  | |
|---|--------------|----------|-----------------|-------------|-----------------|-------------|-----------------|-------------|------|----------------|----------------|-------------------------------------|-----|-------|-------|-------|---|--------------|
| | Type | Mat.-Nr. | | Code | | | | | | | | p [bar] (p _{max} = 10 bar) | | | | | H = 500 mm | H = 1,000 mm |
| | | 1Y | 2P | | | | | | | | | | | | | | | |
| | 316L SS | 904 L | 1 1/2 BSPP male | 2 BSPP male | 2 1/2 BSPP male | 3 BSPP male | 3 1/2 BSPP male | 4 BSPP male | | | 0.3 | 0.5 | 1.0 | 2.0 | 5.0 | | | |
| 90° | 419.366 | ○ | ○ | AR | AV | - | - | - | - | 19.0 | 17.5 | 117 | 144 | 189 | 250 | 361 | 1,000 | 2,000 |
| | 419.396 | ○ | ○ | AR | AV | - | - | - | - | 21.2 | 17.5 | 140 | 172 | 227 | 300 | 433 | 1,000 | 2,000 |
| | 419.446 | ○ | ○ | - | AV | AY | - | - | - | 24.0 | 20.5 | 187 | 230 | 303 | 400 | 577 | 1,000 | 2,000 |
| | 419.486 | ○ | ○ | - | AV | AY | - | - | - | 29.0 | 20.5 | 234 | 287 | 379 | 500 | 721 | 1,000 | 2,000 |
| | 419.516 | ○ | ○ | - | AV | AY | LA | LC | - | 29.2 | 24.1 | 281 | 345 | 455 | 600 | 866 | 1,000 | 2,000 |
| | 419.546 | ○ | ○ | - | AV | AY | LA | LC | - | 33.0 | 24.1 | 332 | 408 | 538 | 710 | 1,024 | 1,000 | 2,000 |
| | 419.576 | ○ | ○ | - | - | AY | LA | - | LE | 35.0 | 27.2 | 398 | 488 | 644 | 850 | 1,226 | 1,000 | 2,000 |
| | 419.606 | ○ | ○ | - | - | - | LA | LC | - | 37.5 | 30.1 | 468 | 574 | 758 | 1,000 | 1,443 | 1,000 | 2,000 |
| 419.626 | ○ | ○ | - | - | - | LA | LC | - | 43.0 | 30.1 | 585 | 718 | 947 | 1,250 | 1,803 | 1,000 | 2,000 | |
| 120° | 419.368 | ○ | ○ | AR | AV | - | - | - | - | 21.0 | 17.4 | 117 | 144 | 189 | 250 | 361 | 1,700 | 2,900 |
| | 419.398 | ○ | ○ | AR | AV | - | - | - | - | 24.2 | 17.4 | 140 | 172 | 227 | 300 | 433 | 1,700 | 2,900 |
| | 419.448 | ○ | ○ | - | AV | AY | - | - | - | 24.5 | 20.5 | 187 | 230 | 303 | 400 | 577 | 1,700 | 2,900 |
| | 419.488 | ○ | ○ | - | AV | AY | - | - | - | 29.5 | 20.5 | 234 | 287 | 379 | 500 | 721 | 1,700 | 2,900 |
| | 419.518 | ○ | ○ | - | AV | AY | LA | LC | - | 29.2 | 24.1 | 281 | 345 | 455 | 600 | 866 | 1,700 | 2,900 |
| | 419.548 | ○ | ○ | - | AV | AY | LA | LC | - | 34.0 | 24.1 | 332 | 408 | 538 | 710 | 1,024 | 1,700 | 2,900 |
| | 419.578 | ○ | ○ | - | - | AY | LA | - | LE | 35.0 | 28.6 | 398 | 488 | 644 | 850 | 1,226 | 1,700 | 2,900 |
| | 419.608 | ○ | ○ | - | - | - | LA | LC | - | 38.0 | 32.2 | 468 | 574 | 758 | 1,000 | 1,443 | 1,700 | 2,900 |
| 419.628 | ○ | ○ | - | - | - | LA | LC | - | 43.5 | 32.2 | 585 | 718 | 947 | 1,250 | 1,803 | 1,700 | 2,900 | |

B = Bore diameter · E = Narrowest free cross section · * Spray angle at 1 bar

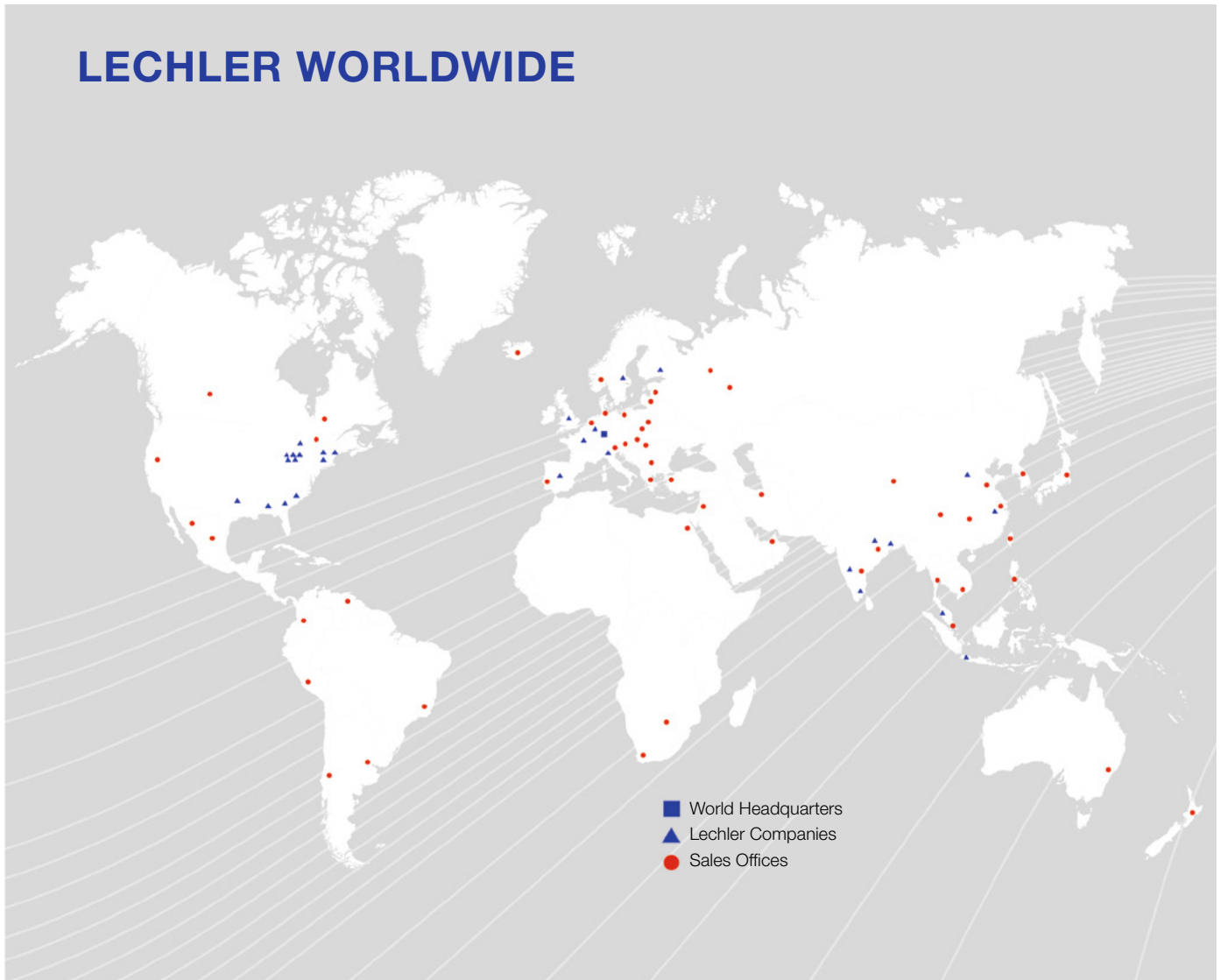
| | | | | |
|----------------|-------------|-----------------------|---------------|-----------------------|
| Example | Type | + Material-No. | + Code | = Ordering no. |
| for ordering: | 419.366 | + 1Y | + AR | = 419.366.1Y.AR |

Conversion formula for the above series: $\dot{V}_2 = \dot{V}_1 * \left(\frac{p_2}{p_1}\right)^{0.4}$
(≤ 10 bar)

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LECHLER WORLDWIDE



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