




















## At a glance

Full cone nozzles for special requirements in comparison

### GENERAL INDUSTRY

						
Series		419	4Fx	4H7	421	4HR
		<i>FreeFlow</i>	<i>HelixFlow</i>			SMDmax
 <b>Flow rate at p = 2 bar</b>	25 l/min–80 l/min					•
	80 l/min–400 l/min	• from 249 l/min	•	• from 100 l/min		•
	400 l/min–800 l/min	•	•			
	800 l/min–1,250 l/min	•	• up to 1,120 l/min		•	
	> 1,250 l/min				• up to 12,500 l/min	
 <b>Spray angle</b>	<b>medium</b> 60°–90°	•	•		•	•
	<b>large</b> 110°–130°	•	•	•	•	•
	> 130°		•			
 <b>Nozzle material</b>	<b>Stainless steel</b>	•	•	•	•	•
	<b>Plastic</b>				•	
 <b>Nozzle connection</b>		Male thread BSPP 2, 2 1/2, 3	Male thread BSPP 3/4, 1, 1 1/2, 2	Male thread BSPP 1, 1 1/4, 1 1/2	Flange DN80, DN100, DN125, DN150, DN200, DN250, DN300	Male/Female thread BSPP/NPT 3/4, 1
<b>Distribution</b>						
<b>Free cross section</b>		+	0	+	0	0
<b>Droplet sizes</b>						
<b>Flow to weight</b>		+	++	++	0	0
<b>Examples of applications</b>		Cleaning and washing processes, dust control, sorption processes, distillation columns	General industry, flue gas desulphurization (special material), general cooling, general gas humidification	Wet desulphurization in scrubbers, gas cooling (quench), absorber technology	Surface sprinkling, Cooling and cleaning of gases, water recooling, column sprinkling, improvement	Column sprinkling with reduced carry-over of medium (e.g. vacuum distillation in the petrochemical industry)
<b>Exponent n</b>		0.4	0.5	0.4	0.4	0.5

 = Mainly fine droplets  
  = Mainly normal droplets  
  = Mainly coarse droplets