



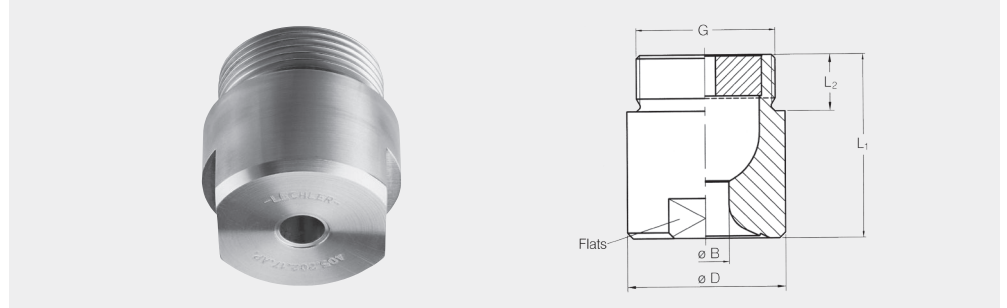
# Axial-flow full cone nozzles Series 405



**Very uniform spray pattern.**

**Applications:**

Surface spraying, spraying over packings, cleaning and washing process, chemical process engineering, cooling of gaseous fluids and solids, water treatment.



G	Dimensions [mm]				Weight Brass
	L <sub>1</sub>	L <sub>2</sub>	D	Flats	
1 1/4 BSPP	50	19	49	41	525 g
1 1/2 BSPP	60	19	59	50	920 g
2 BSPP	78	24	68	60	1,550 g

Spray angle	Ordering no.						B Ø [mm]	E Ø [mm]	V̇ [l/min]						Spray diameter D at p = 2 bar	
	Type	Mat. no.		Code		p [bar]						H = 0.5 m	H = 1 m			
		1Y	30	1 1/4 BSPP	1 1/2 BSPP	2 BSPP			0.3	0.5	1.0			2.0	3.0	5.0
60°	405.204	○	○	AP	-	-	11.20	5.80	47	57	76	100	118	144	560	1,040
	405.284	○	○	-	AR	-	14.30	7.00	75	92	121	160	188	231	580	1,080
	405.324	○	○	-	-	AV	16.40	7.50	94	115	152	200	235	289	580	1,080
	405.364	○	○	-	-	AV	18.40	8.50	117	144	189	250	294	361	580	1,080
	405.404	○	○	-	-	AV	20.00	7.00	147	181	239	315	370	454	580	1,100
90°	405.206	○	○	AP	-	-	12.00	5.00	47	57	76	100	118	144	780	1,450
	405.286	○	○	-	AR	-	15.20	6.20	75	92	121	160	188	231	800	1,550
	405.326	○	○	-	-	AV	17.20	7.70	94	115	152	200	235	289	850	1,600
	405.366	○	○	-	-	AV	19.50	8.70	117	144	189	250	294	361	850	1,600
	405.406	○	○	-	-	AV	22.00	9.50	147	181	239	315	370	454	850	1,600
120°	405.208	○	○	AP	-	-	12.70	5.00	47	57	76	100	118	144	1,450	2,600
	405.288	○	○	-	AR	-	16.00	6.60	75	92	121	160	188	231	1,500	2,700
	405.328	○	○	-	-	AV	17.80	7.90	94	115	152	200	235	289	1,500	2,800
	405.368	○	○	-	-	AV	20.10	8.80	117	144	189	250	294	361	1,500	2,800
	405.408	○	○	-	-	AV	22.40	9.10	147	181	239	315	370	454	1,500	2,800

B = bore diameter · E = narrowest free cross section

<b>Example</b>	<b>Type</b>	<b>+</b>	<b>Material-no.</b>	<b>+</b>	<b>Code</b>	<b>=</b>	<b>Ordering no.</b>
for ordering:	405.204	+	1Y	+	AP	=	405.204.1Y.AP

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



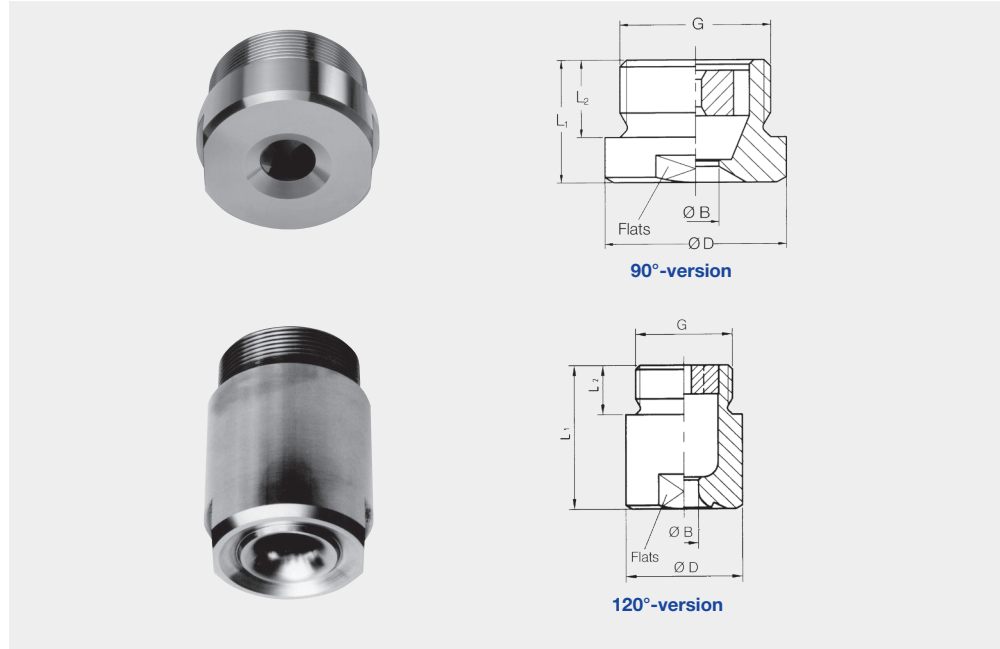
# Axial-flow full cone nozzles Series 403



**Very uniform spray pattern.**

**Applications:**

Surface spraying, spraying over packings, chemical process engineering, cooling of gaseous fluids and solids.



**90°-version**

Type	Dimensions [mm]						Weight
	BSPP	L <sub>1</sub>	L <sub>2</sub>	D	Flats		
403.446/403.486	2 1/2	52	27	83	75	1,300 g	
403.526	3	60	30	98	85	2,000 g	
403.606	3 1/2	70	32	118	105	3,600 g	

**120°-version**

Type	Dimensions [mm]						Weight
	BSPP	L <sub>1</sub>	L <sub>2</sub>	D	Flats		
403.448/403.488	2 1/2	124	27	83	75	3,200 g	
403.528	3	153	30	98	85	5,400 g	
403.608	3 1/2	156	32	118	105	8,300 g	
403.628	4	165	36	128	110	9,600 g	

Spray angle	Ordering no.		B Ø [mm]	E Ø [mm]	V̇ [l/min]							Spray diameter D at p = 2 bar	
	Type	Mat. no. 1Y			p [bar]							H = 0.5 m	H = 1 m
					0.3	0.5	1.0	2.0	3.0	5.0	7.0		
90°	403.446	○	25.00	12.00	187	230	303	400	470	577	660	900	1,700
	403.486	○	29.50	12.00	234	287	379	500	588	721	825	900	1,700
	403.526	○	32.00	13.80	295	362	477	630	741	909	1,040	900	1,700
	403.606	○	40.00	15.00	468	574	758	1,000	1,176	1,443	1,651	980	1,750
120°	403.448	○	25.50	10.00	187	230	303	400	470	577	660	1,500	2,850
	403.488	○	29.50	11.00	234	287	379	500	588	721	825	1,500	2,850
	403.528	○	32.00	15.00	295	362	477	630	741	909	1,040	1,500	2,850
	403.608	○	42.00	12.00	469	574	758	1,000	1,176	1,443	1,651	1,500	2,850
	403.628	○	45.00	15.00	585	718	947	1,250	1,470	1,903	2,063	1,600	2,900

B = bore diameter · E = narrowest free cross section

**Example for ordering:** Type 403.446 + Material no. 1Y = Ordering no. 430.446.1Y