



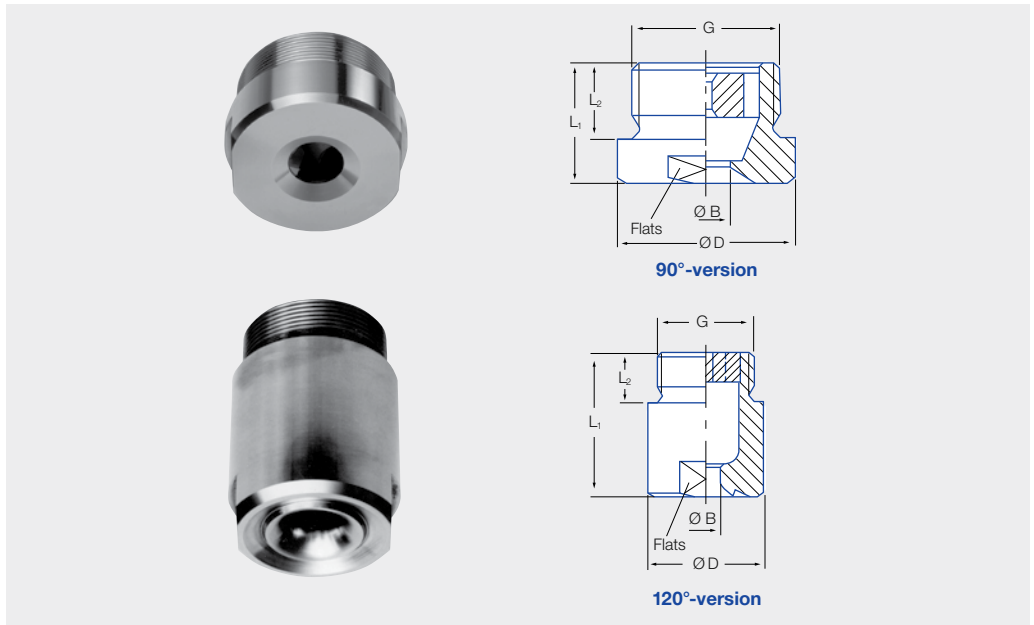
Axial-flow full cone nozzles Series 403



Very uniform spray pattern.

Applications:

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



Other nozzle sizes and materials are available on request.

90°-version

G (Male NPT)	Dimensions (in.)				Wt. (lb.)
	L1	L2	D	Flats	
2-1/2	2.0	1.1	3.3	3.0	2.9
3	2.4	1.2	3.9	3.3	3.7
3-1/2	2.8	1.3	4.6	4.1	8.4

120°-version

G (Male NPT)	Dimensions (in.)				Wt. (lb.)
	L1	L2	D	Flats	
2-1/2	4.9	1.1	3.3	3.0	6.6
3	6.0	1.2	3.9	3.3	11.5
3-1/2	6.1	1.3	4.6	4.1	18.5
4	6.5	1.4	5.0	4.3	21.0

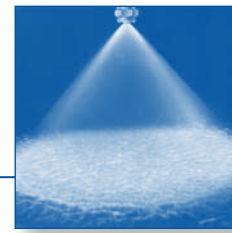
Spray angle	Ordering no.				Orifice diam. (in.)	Free passage (in.)	Flow Rate (Gallons Per Minute)										Spray Diam. D (in.) @ 30 psi			
	Type	Mat. no. 316L SS 1Y	Connection				liters per minute					Gallons Per Minute					H=20"	H=40"		
			2 1/2"	3"			3 1/2"	4"	2 bar	30 psi	40 psi	60 psi	80 psi	100 psi						
90°	403.446	○	BY	-	-	-	.985	.473	52	69	91	400	107	120	141	159	173	35	67	
	403.486	○	BY	-	-	-	1.162	.473	65	86	114	500	134	150	177	198	217	35	67	
	403.526	○	-	MA	-	-	1.000	.544	82	109	143	630	169	189	223	250	273	35	67	
	403.606	○	-	-	MC	-	1.576	.591	131	173	228	1000	269	300	353	396	433	38	69	
120°	403.448	○	BY	-	-	-	1.005	.394	52	69	91	400	107	120	141	159	173	59	112	
	403.488	○	BY	-	-	-	1.162	.433	65	86	114	500	134	150	177	198	217	59	112	
	403.528	○	-	MA	-	-	1.261	.591	82	109	143	630	169	189	223	250	273	59	112	
	403.568	○	-	-	MC	-	1.497	.473	105	138	182	800	215	240	283	317	347	59	112	
	403.608	○	-	-	MC	-	1.655	.473	131	173	228	1000	269	300	353	396	433	59	112	
	403.628	○	-	-	-	ME	1.773	.591	163	216	285	1250	336	375	442	495	542	63	114	

Example Type + Material no. + Conn. = Ordering no.
for ordering: 403.448 + 1Y + BY = 403.448.1Y.BY

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



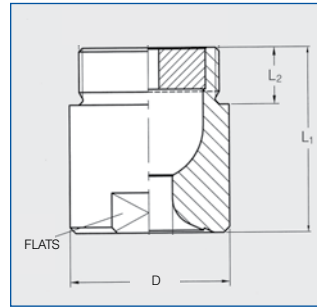
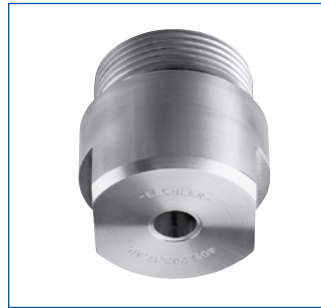
Full cone nozzles Axial-flow Series 405



**Uniform spray pattern.
Large free passage cross-
sections due to optimized
x-style swirl insert.**

Applications:

- Surface spraying
- Spraying over packings
- Cleaning and washing processes
- Chemical process engineering
- Cooling of gaseous fluids and solids
- Water treatment



Dimensions (in.)				
Inlet (Male NPT)	L1	L2	D	Flats
1-1/4	1.97	.75	1.93	1-5/8
1-1/2	2.36	.75	2.32	2
2	3.07	.94	2.68	2-3/8

Spray angle	Ordering no.				Orifice diam. (in.)	Free passage (in.)	Flow Rate (Gallons Per Minute)								Spray Diam. D (in.) @ 30 psi		
	Type	Material no.	Connection				5 psi			10 psi			liters per minute		H=20"	H=40"	
			Male NPT				20 psi	30 psi	40 psi	60 psi	2 bar	30 psi	40 psi	60 psi			
90°	405. 206	○	BP	-	-	.473	.197	13	17	23	100	27	30	35	31	57	
	405. 286	○	-	BR	-	.599	.244	21	28	36	160	43	48	57	31	61	
	405. 326	○	-	-	BV	-	.678	.303	26	35	46	200	54	60	71	33	63
	405. 366	○	-	-	BV	-	.768	.343	33	43	57	250	67	75	88	33	63
	405. 406	○	-	-	BV	-	.867	.374	41	54	72	315	85	95	111	33	63
120°	405. 208	○	BP	-	-	.500	.197	13	17	23	100	27	30	35	57	102	
	405. 288	○	-	BR	-	.630	.260	21	28	36	160	43	48	57	59	106	
	405. 328	○	-	-	BV	-	.701	.311	26	35	46	200	54	60	71	59	110
	405. 368	○	-	-	BV	-	.792	.347	33	43	57	250	67	75	88	59	110
	405. 408	○	-	-	BV	-	.883	.359	41	54	72	315	85	95	111	59	110

Example Type + Material no. + Conn. = Ordering no.
for ordering: 405. 204 + 1Y + BP = 405. 204. 1Y. BP

Full cone