Twin-fluid nozzles for exhaust gas cooling
Series 170/180

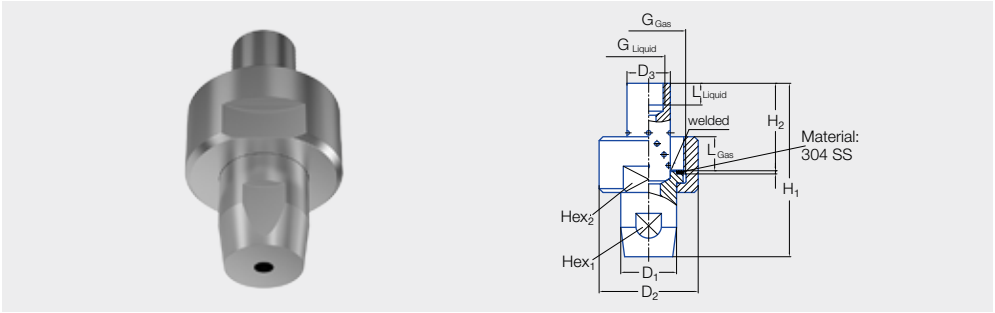
Efficient atomization by mixing liquid medium and gas.

- Internal mixing principle (a mixing chamber inside the nozzle combines a gas and a liquid to produce an intensive two-phase mixture)
- Extremely fine atomization with good control behavior
- Large clear cross sections
- Lower air consumption than for nozzles with external mixing
- Maintenance-free operation

Applications:
Gas cooling, humidification, flue-gas desulfurization, absorption.

The large free cross sections of the nozzle permit maintenance-free operation even for atomization of viscous and abrasive media with high solids load.

Other sizes available on request



Type	Dimensions [in]										
	H_1	H_2	D_1	D_2	D_3	A/F_1	Hex_2	G_{Liquid}	$G_{Gas\ BSPP}$	L_{Liquid}	L_{Gas}
180.641	1.61	-	0.55	1.24	0.45	0.47	24	M8 x 1 A	G 3/4 I	0.31	0.47
170.801	3.19	1.59	1.26	2.27	0.59	1.06	50	3/8 BSPT	G1 1/4 I	0.47	0.51
170.881	3.19	1.59	1.26	2.27	0.59	1.06	50	3/8 BSPT	G1 1/4 I	0.47	0.51
170.961	4.41	2.22	1.42	2.52	1.10	1.26	55	1/2 BSPT	G1 1/2 I	0.55	0.87

Ordering no. / Type	E Ø [in] Air	E Ø [in] Water	Air pressure **p** [psi] 15			30			45			60		
			p water [psi]	$\dot{V}$ water [gal/h]	$\dot{V}_{n}$ air [SCFM]	**p** water [psi]	$\dot{V}$ water [gal/h]	$\dot{V}_{n}$ air [SCFM]	**p** water [psi]	$\dot{V}$ water [gal/h]	$\dot{V}_{n}$ air [SCFM]	**p** water [psi]	$\dot{V}$ water [gal/h]	$\dot{V}_{n}$ air [SCFM]
180.641	.12	.17	11.6	.11	11.8	24.7	.16	18.8	36.3	.21	25.3	45.0	.24	32.4
			13.1	.26	10.6	27.6	.40	16.5	46.4	.80	21.2	66.7	1.1	25.3
			18.9	.66	8.2	39.2	.92	13.5	58.0	1.3	18.8	84.1	1.8	21.2
170.801	.08	.22	10.2	.26	23.5	21.8	.26	34.1	31.9	.32	47.1	46.4	.32	61.8
			13.1	.79	20.6	26.1	1.3	30.6	37.7	1.8	42.4	52.2	2.6	53.6
			14.5	1.3	18.8	29.0	2.6	28.3	43.5	3.7	37.1	58.0	5.3	48.9
170.881	.11	.30	8.7	.26	35.3	21.8	.32	55.9	31.9	.40	76.5	45.0	.48	100.7
			11.6	1.3	32.4	24.7	1.8	53.0	36.3	2.6	69.5	50.8	4.0	90.7
			13.1	2.1	29.4	27.6	3.4	47.1	43.5	5.0	61.8	59.5	7.4	84.2
170.961	.13	.37	8.7	.26	55.3	20.3	.32	91.2	31.9	.40	123.6	43.5	.48	161.9
			11.6	1.3	50	24.7	2.6	76.5	37.7	4.0	105.4	50.8	5.3	129.5
			14.5	3.2	42.4	27.6	5.0	67.7	43.5	6.9	89.5	59.5	10.0	116.5

E = narrowest free cross section
Materials on request

Small spray angle (15°), suitable for small cross sections and horizontal channels

Very large turn down ratio of 20:1 (in some cases up to 40:1)

Adjustment of the droplet spectrum by changing the air/liquid ratio

Very fine droplet spectrum

Clog-resistant thanks to large free cross sections without internal fittings

Typical pressure range Liquid 15–87 psi, atomizing air 15–87 psi,

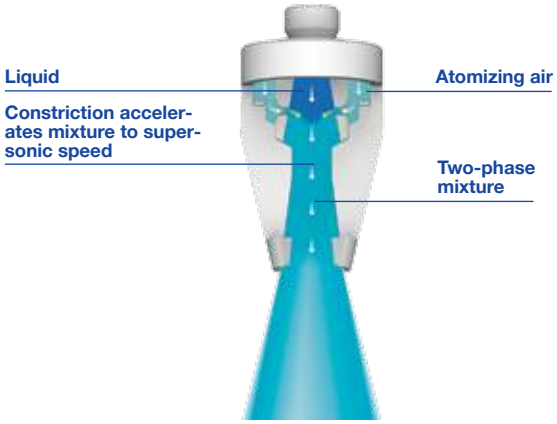


Diagram of the Laval nozzle