



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



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



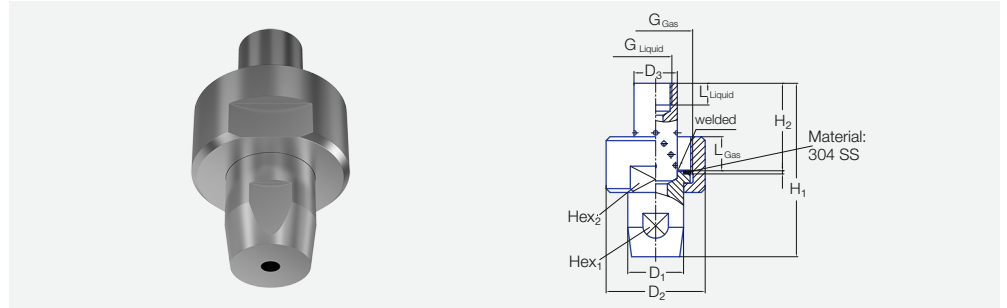
Very large turn down ratio of 20:1 (in some cases up to 40:1)



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



Very fine droplet spectrum



Type	Dimensions [mm]										
	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	41	-	14	31.5	11.5	12	24	M8 x 1 A	G 3/4 I	8	12
170.801	81	40.5	32	57.7	15	27	50	3/8 BSPT	G1 1/4 I	12	13
170.881	81	40.5	32	57.7	15	27	50	3/8 BSPT	G1 1/4 I	12	13
170.961	112	56.5	36	64	28	32	55	1/2 BSPT	G1 1/2 I	14	22

Ordering no.	E Ø [mm]	E Ø [mm]	Air pressure p [bar]											
			1.0			2.0			3.0			4.0		
			Air	Water										
180.641	3.0	4.2	p water [bar]	v̇ water [l/h]	v̇ n air [m³/h]	p water [bar]	v̇ water [l/h]	v̇ n air [m³/h]	p water [bar]	v̇ water [l/h]	v̇ n air [m³/h]	p water [bar]	v̇ water [l/h]	v̇ n air [m³/h]
			0.8	0.4	20.0	1.7	0.6	32.0	2.5	0.8	43.0	3.1	0.9	55.0
170.801	2.0	5.5	0.9	1.0	18.0	1.9	1.5	28.0	3.2	3.0	36.0	4.6	4.0	43.0
			1.3	2.5	14.0	2.7	3.5	23.0	4.0	5.0	32.0	5.8	7.0	37.0
170.881	2.8	7.6	0.7	1.0	40.0	1.5	1.0	58.0	2.2	1.2	80.0	3.2	1.2	105.0
			0.9	3.0	35.0	1.8	5.0	52.0	2.6	7.0	72.0	3.6	10.0	91.0
170.961	3.2	9.5	1.0	5.0	32.0	2.0	10.0	48.0	3.0	14.0	63.0	4.0	20.0	83.0
			0.6	1.0	60.0	1.5	1.2	95.0	2.2	1.5	130.0	3.1	1.8	171.0
170.961	3.2	9.5	0.8	5.0	85.0	1.7	7.0	90.0	2.5	10.0	118.0	3.5	15.0	154.0
			0.9	8.0	50.0	1.9	13.0	80.0	3.0	19.0	105.0	4.1	28.0	143.0
170.961	3.2	9.5	0.6	1.0	94.0	1.4	1.2	155.0	2.2	1.5	210.0	3.0	1.8	275.0
			1.0	12.0	72.0	1.9	19.0	115.0	3.0	26.0	152.0	4.1	38.0	198.0

E = narrowest free cross section

Materials on request



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



Typical pressure range
Liquid 1–6 bar, ü
atomizing air 1–6 bar, ü

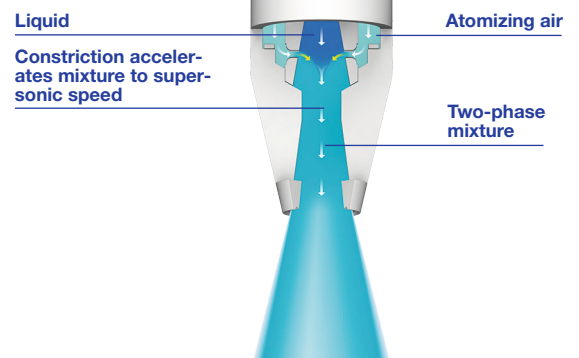


Diagram of the Laval nozzle