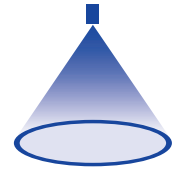


➤ Tangential-flow hollow cone nozzles, stainless steel/brass version Series 302

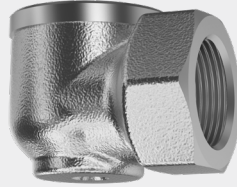


Features:

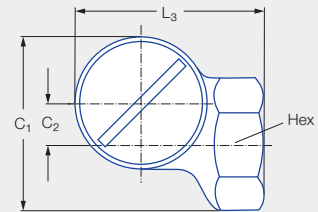
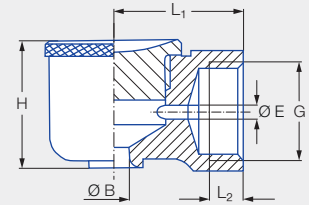
- Uniform atomization
- Non-clogging nozzle without swirl insert

Applications:

- Humidification of air
- Dust control
- Sprinkling
- Foam control
- Adiabatic cooling



Series 302



G	Dimensions [mm]							Weight [g] (Brass)
	C ₁	C ₂	H	L ₁	L ₂	L ₃	Hex	
3/8 BSPP	34.0	8.0	23.0	23.0	6.5	36.0	22	90.0

Spray angle	Ordering no.		Bore diameter B [mm]	Narrowest free cross section Ø [mm]	V̇ water [l/min]								Spray diameter D [mm] (at p = 2 bar)		
	Type	Mat. no.			p [bar]								H = 250 [mm]	H = 500 [mm]	
		1Y			30	0.5	1.0	2.0	3.0	5.0	7.0	10.0			
60°	302.364	•	•	1.50	1.50	0.32	0.45	0.63	0.77	1.00	1.18	1.41	280	420	
	302.464	•	•	2.00	2.00	0.70	0.99	1.40	1.71	2.21	2.62	3.13	280	460	
80°	302.545	•	•	4.90	2.30	1.12	1.58	2.24	2.74	3.54	4.19	5.01	360	660	
90°	302.606	•	•	4.60	4.00	1.58	2.23	3.15	3.86	4.98	5.89	7.04	470	810	
130°	302.368	•	•	3.00	1.00	0.32	0.45	0.63	0.77	1.00	1.18	1.41	660	1,080	
	302.468	•	•	5.00	1.70	0.70	0.99	1.40	1.71	2.21	2.62	3.13	810	1,370	
	302.548	•	•	5.00	2.50	1.12	1.58	2.24	2.74	3.54	4.19	5.01	960	1,640	
	302.608	•	•	5.00	3.50	1.58	2.23	3.15	3.86	4.98	5.89	7.04	1,060	1,800	
	302.668	•	•	7.50	3.60	2.25	3.18	4.50	5.51	7.12	8.42	10.06	1,120	1,950	
	302.748	•	•	7.50	4.80	3.55	5.02	7.10	8.70	11.23	13.28	15.88	1,160	2,150	

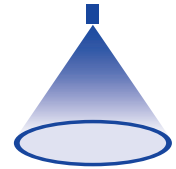
Conversion formula for this series: $\dot{V}_2 = \dot{V}_1 \cdot \sqrt{\frac{p_2}{p_1}}$

Ordering Type + Material no. = Ordering no.
example: 302.364 + 30 = 302.364.30

Assembly accessories can be found in Chapter 9 "Accessories".

➤ Tangential-flow hollow cone nozzles, plastic version

Series 302

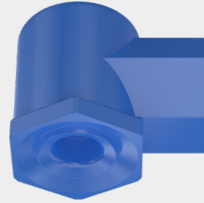


Features:

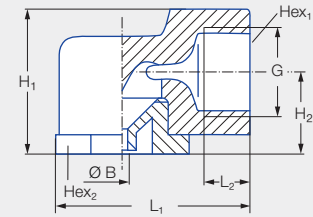
- Uniform atomization
- Non-clogging nozzle without swirl insert

Applications:

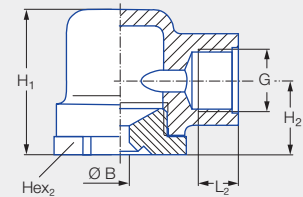
- Humidification of air
- Dust control
- Sprinkling
- Foam control
- Adiabatic cooling



Series 302




Type 302.32x-302.48x




Type 302.52x-302.96x

Type	G	Dimensions [mm]						Weight [g]	p _{max} [bar]
		H ₁	H ₂	L ₁	L ₂	Hex ₁	Hex ₂		
302.32x-302.48x	3/8 BSPP	27.5	16.5	43.5	10.0	22	22	13.0	5.0
302.52x-302.96x	3/8 BSPP	34.0	18.5	37.0	10.0	22	22	18.0	5.0

Spray angle	Ordering no.				Bore diameter B [mm]	Narrowest free cross section Ø [mm]	V̇ water [l/min]					Spray diameter D [mm] (at p = 2 bar)	
	Type	Mat. no.					p [bar]						
		51	5E	53			0.5	1.0	2.0	3.0	5.0		
60°	302.364	●		●	1.30	1.30	0.32	0.45	0.63	0.77	1.00	320	600
	302.464	●		●	1.95	1.95	0.70	0.99	1.40	1.71	2.21	330	620
90°	302.326	●	●		1.05	1.05	0.20	0.28	0.40	0.49	0.63	470	770
	302.366	●	●		1.30	1.30	0.32	0.45	0.63	0.77	1.00	480	790
	302.406	●	●	●	1.55	1.55	0.50	0.71	1.00	1.22	1.58	490	810
	302.486	●		●	2.10	2.10	0.80	1.13	1.60	1.96	2.53	510	850
	302.526	●		●	5.00	2.00	1.00	1.41	2.00	2.45	3.16	520	870
	302.566	●		●	5.00	2.40	1.25	1.77	2.50	3.06	3.95	520	900
	302.606	●		●	5.00	3.20	1.58	2.23	3.15	3.86	4.98	530	940
	302.686	●			7.50	3.40	2.50	3.54	5.00	6.12	7.91	540	1,010
	302.766	●			9.00	4.30	4.00	5.66	8.00	9.80	12.65	540	1,040
	302.846	●		●	11.00	5.20	6.25	8.84	12.50	15.31	19.67	540	1,050
	302.886	●	●	●	11.00	6.40	8.00	11.31	16.00	19.60	25.30	540	1,050
302.966	●			11.00	8.60	12.50	17.68	25.00	30.62	39.53	540	1,050	





Spray angle	Ordering no.			Bore diameter B [mm]	Narrowest free cross section Ø [mm]	V̇ water [l/min]					Spray diameter D [mm] (at p = 2 bar)		
	Type	Mat. no.				p [bar]					 H = 250 [mm] H = 500 [mm]		
		51	5E										53
		PA	PVDF			PP	0.5	1.0	2.0	3.0	5.0		
130°	302.328		●		1.35	0.80	0.20	0.28	0.40	0.49	0.63	640	930
	302.368	●	●		1.85	1.10	0.32	0.45	0.63	0.77	1.00	660	1,010
	302.408	●	●		3.65	1.30	0.50	0.71	1.00	1.22	1.58	680	1,110
	302.488	●		●	5.20	1.60	0.80	1.13	1.60	1.96	2.53	720	1,250
	302.528	●			5.00	2.00	1.00	1.41	2.00	2.45	3.16	750	1,330
	302.568	●			5.00	2.40	1.25	1.77	2.50	3.06	3.95	780	1,410
	302.608	●	●	●	5.00	3.20	1.58	2.23	3.15	3.86	4.98	820	1,500
	302.648	●			7.50	3.00	2.00	2.83	4.00	4.90	6.32	860	1,590
	302.688	●			7.50	3.40	2.50	3.54	5.00	6.12	7.91	900	1,650
	302.728	●			7.50	4.10	3.15	4.45	6.30	7.72	9.96	920	1,700
	302.768	●			9.00	4.30	4.00	5.66	8.00	9.80	12.65	940	1,730
	302.848	●			11.00	5.20	6.25	8.84	12.50	15.31	19.76	960	1,760
	302.888	●		●	11.00	6.40	8.00	11.31	16.00	19.60	25.30	970	1,780
	302.968	●	●		11.00	8.60	12.50	17.68	25.00	30.62	39.53	1000	1,800

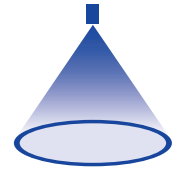
Conversion formula for this series: $\dot{V}_2 = \dot{V}_1 \cdot \sqrt{\frac{p_2}{p_1}}$

Ordering Type + Material no. = Ordering no.
 example: 302.328 + 5E = 302.328.5E



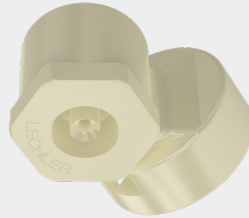
Assembly accessories can be found in Chapter 9 "Accessories".

➤ Tangential-flow hollow cone nozzles, plastic version with bayonet quick-release system Series 302



Features:

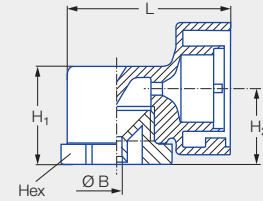
- Uniform atomization
- Non-clogging nozzle without swirl insert
- Quick and secure assembly thanks to bayonet quick-release system
- Setting of spray direction



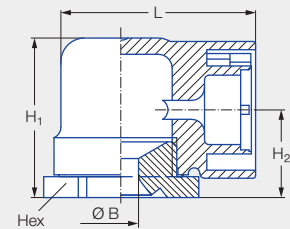
Applications:

- Humidification of air
- Dust control
- Sprinkling
- Foam control
- Adiabatic cooling

Series 302



Type 302.32x-302.54x



Type 302.606.51.KB

Type	Code	Dimensions [mm]				Weight [g]	P _{max} [bar]
		H ₁	H ₂	L	Hex		
302.32x-302.54x	KB	21.8	16.8	36.0	22	12.0	5.0
302.606.51.KB	KB	34.0	19.0	42.0	30	19.0	5.0

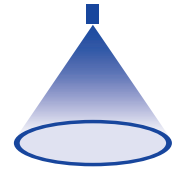
Spray angle	Ordering no.				Bore diameter B [mm]	Narrowest free cross section Ø [mm]	V̇ water [l/min]					Spray diameter D [mm] (at p = 2 bar)	
	Type	Mat. no.		Code			p [bar]					H = 250 [mm]	H = 500 [mm]
		51	56				0.5	1.0	2.0	3.0	5.0		
45°	302.503	●		KB	2.05	2.05	0.90	1.27	1.80	2.20	2.85	210	430
60°	302.464		●	KB	1.95	1.95	0.70	0.99	1.40	1.71	2.21	290	540
80°	302.545		●	KB	2.30	2.30	1.12	1.58	2.24	2.74	3.54	450	810
90°	302.326	●	●	KB	1.05	1.05	0.20	0.28	0.40	0.49	0.63	400	720
	302.406	●	●	KB	1.55	1.55	0.50	0.71	1.00	1.22	1.58	400	740
	302.486	●		KB	2.10	2.10	0.80	1.13	1.60	1.96	2.53	450	800
	302.606	●		KB	5.00	3.20	1.58	2.23	3.15	3.86	4.98	530	1,000
	302.686		●	KB	7.50	3.40	2.50	3.54	5.00	6.13	7.91	540	1,010
130°	302.368		●	KB	1.30	1.30	0.32	0.45	0.63	0.77	1.00	660	1,100
	302.408	●	●	KB	2.00	2.00	0.50	0.71	1.00	1.22	1.58	680	1,200
	302.468	●		KB	2.40	2.40	0.70	0.99	1.40	1.71	2.21	680	1,250
	302.488	●		KB	2.75	2.75	0.80	1.13	1.60	1.96	2.53	720	1,300

Conversion formula for this series: $\dot{V}_2 = \dot{V}_1 \cdot \sqrt{\frac{P_2}{P_1}}$

Ordering Type + Material no. + Code = Ordering no.
example: 302.503 + 51 + KB = 302.503.51.KB

Assembly accessories can be found in Chapter 9 "Accessories".

➤ Tangential-flow hollow cone nozzles Series 308



Features:

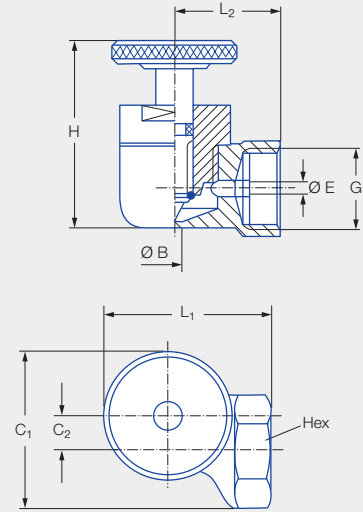
- Uniform atomization
- Non-clogging nozzle without swirl insert
- Adjustable flow rate

Applications:

- Humidification of air in air washers
- Dust control
- Spraying onto filters
- Foam control
- Cooling



Series 308



G	Dimensions [mm]						Weight [g]
	C ₁	C ₂	H	L ₁	L ₂	Hex	
3/8 BSPP	34.0	8.0	40.0	36.0	23.0	22	150.0

Spray angle	Ordering no.		Bore diameter B [mm]	Narrowest free cross section Ø [mm]	V _{max} water [l/min]						Spray diameter D [mm] (at p = 2 bar)	
	Type	Mat. no.			p [bar]						 H = 250 [mm] H = 500 [mm]	
		30			0.3	0.5	1.0	2.0	5.0	10.0		
90°	308.466	●	2.00	2.00	0.54	0.70	1.00	1.40	2.21	3.13	440	830
	308.606	●	4.00	4.00	1.22	1.58	2.23	3.15	4.98	7.04	460	850

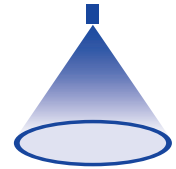
Conversion formula for this series: $\dot{V}_2 = \dot{V}_1 \cdot \sqrt{\frac{p_2}{p_1}}$

Ordering Type + Material no. = Ordering no.
example: 308.466 + 30 = 308.466.30

Assembly accessories can be found in Chapter 9 "Accessories".

➤ Tangential-flow hollow cone nozzles

Series 304/306/307

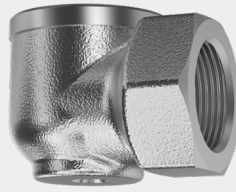


Features:

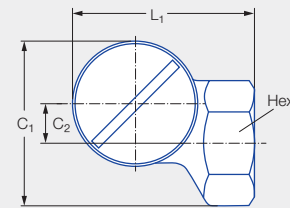
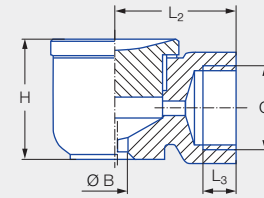
- Uniform atomization
- Non-clogging nozzle without swirl insert

Applications:

- Storage tank cooling
- Foam control
- Dust control
- Surface spraying
- Absorption



Series 304/306/307



Series	G	Dimensions [mm]							Weight [g] (Brass)
		C ₁	C ₂	H	L ₁	L ₂	L ₃	Hex	
304	1/2 BSPP	43.0	11.0	33.0	46.0	30.0	11.0	27	205.0
306/307	3/4 BSPP	54.0	13.0	43.0	60.0	40.0	13.0	36	410.0

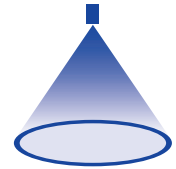
Spray angle	Ordering no.		Bore diameter B [mm]	Narrowest free cross section Ø [mm]	G ISO 228	V̇ water [l/min]								Spray diameter D [mm] (at p = 2 bar)		
	Type	Mat. no.				p [bar]								H = 250 [mm]	H = 500 [mm]	
		1Y				30	0.5	1.0	2.0	3.0	5.0	7.0	10.0			
90°	304.706	●	●	5.10	5.10	1/2	2.80	3.96	5.60	6.86	8.85	10.48	12.52	500	1,000	
	304.796	●	●	8.90	6.00	1/2	4.75	6.72	9.50	11.64	15.02	17.77	21.24	500	1,000	
	306.906	●	●	9.00	9.00	3/4	9.00	12.73	18.00	22.05	28.46	33.67	40.25	550	1,050	
	306.976	●	●	13.50	10.00	3/4	13.25	18.74	26.50	32.46	41.90	49.58	59.26	550	1,050	
130°	304.818		●	12.00	5.00	1/2	5.30	7.50	10.60	12.98	16.76	19.83	23.70	1,200	2,100	
	304.898	●	●	12.00	7.00	1/2	8.50	12.02	17.00	20.82	26.88	31.80	38.01	1,250	2,200	
	306.978		●	19.00	7.30	3/4	13.25	18.74	26.50	32.46	41.90	49.58	59.26	1,300	2,350	
	307.018	●	●	19.00	8.60	3/4	16.75	23.69	33.50	41.03	52.97	62.67	74.91	1,300	2,350	

Conversion formula for this series: $\dot{V}_2 = \dot{V}_1 \cdot \sqrt{\frac{P_2}{P_1}}$

Ordering Type + Material no. = Ordering no.
 example: 304.706 + 1Y = 307.706.1Y

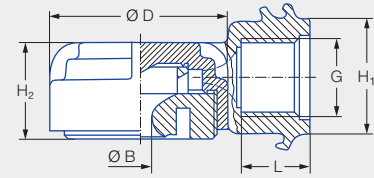
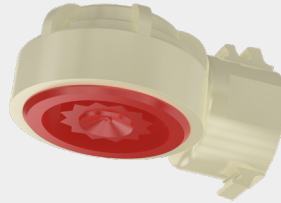
Assembly accessories can be found in Chapter 9 "Accessories".

➤ Tangential-flow hollow cone nozzles Series 350



Features:

- High performance nozzle for humidification of air
- Very narrow droplet spectrum
- Extremely uniform liquid distribution over the entire spray pattern
- Quick-release clamp unit available for pipe mounting



Applications:

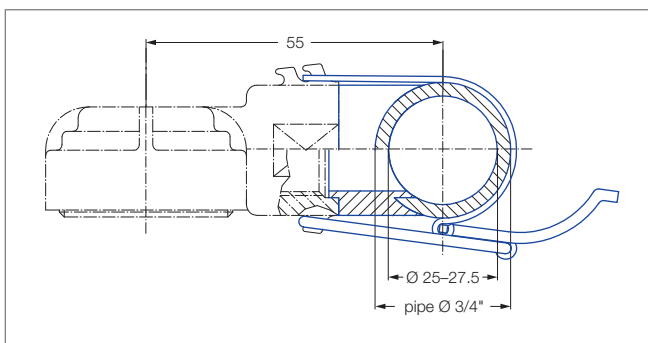
- Foam control
- Dust control
- Surface spraying
- Absorption

Series 350

G	Dimensions [mm]				Weight [g]	P _{max} [bar]
	H ₁	H ₂	L	Ø D		
3/8 BSPP	24.0	20.0	14.0	37.0	37.0	20.0

Spray angle	Ordering no.		Bore diameter B [mm]	Narrowest free cross section Ø [mm]	V̇ water [l/min]							Spray diameter D [mm] (at p = 2 bar)	
	Type	Mat. no.			p [bar]							H = 250 [mm]	H = 500 [mm]
		56			0.5	1.0	2.0	3.0	5.0	7.0	10.0		
130°	350.368	●	1.55	0.70	0.32	0.45	0.63	0.77	1.00	1.18	1.41	950	1,250
	350.608	●	5.00	1.40	1.58	2.23	3.15	3.86	4.98	5.89	7.04	990	1,950


Accessories:



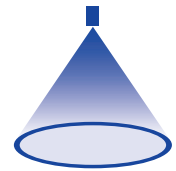
Recommended bore diameter 18 mm.
Quick-release clamp unit: Ordering no. 035.030.15.05.00.0.
Consisting of: Stainless steel clamp, polyurethane gasket.

Conversion formula for this series: $\dot{V}_2 = \dot{V}_1 \cdot \sqrt{\frac{p_2}{p_1}}$

Ordering Type + Material no. = Ordering no.
example: 350.368 + 56 = 350.368.56

 Assembly accessories can be found in Chapter 9 "Accessories".

➤ Eccentric hollow cone nozzles Series 373 Ramp Bottom

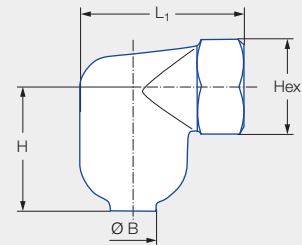
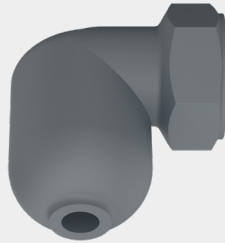


Features:

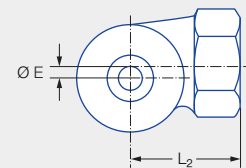
- Fine, uniform atomization even at low pressure
- Patented swirl chamber with built-in ramp extends service life

Applications:

- Gas cooling
- Water recooling
- Dust control



Series 373



Code	G	Dimensions [mm]					Weight [g]
		H	L ₁	L ₂	E	Hex	
AN	1 BSPP	52.0	67.0	45.0	6.3	41	285.0
AQ	1 1/4 BSPP	65.0	77.0	51.0	7.9	48	570.0
AS	1 1/2 BSPP	81.0	97.0	65.0	7.9	58	900.0

Spray angle	Ordering no.				Bore diameter B [mm]	V̇ water [l/min]						Spray diameter D [mm] (at p = 2 bar)		
	Type	Mat. no.	Code			p [bar]						H = 500 [mm]	H = 1,000 [mm]	
		17	1 BSPP	1 1/4 BSPP		1 1/2 BSPP	0.3	0.5	1.0	2.0	5.0			10.0
80°	373.115	●	AN			11.40	24.40	31.50	44.55	63.00	99.61	140.87	670	1,200
	373.175	●	AN			12.90	30.98	40.00	56.57	80.00	126.49	178.89	800	1,450
	373.235	●		AQ		16.20	45.70	59.00	83.44	118.00	186.57	263.86	750	1,300
	373.285	●		AQ		20.50	61.97	80.00	113.14	160.00	252.98	357.77	800	1,350
	373.325	●			AS	22.20	77.46	100.00	141.42	200.00	316.23	447.21	900	1,500
	373.365	●			AS	23.60	87.92	113.50	160.51	227.00	358.92	507.59	830	1,400

Conversion formula for this series: $\dot{V}_2 = \dot{V}_1 \cdot \sqrt{\frac{p_2}{p_1}}$

Ordering Type + Material no. + Code = Ordering no.
example: 373.115 + 17 + AN = 373.115.17.AN

Assembly accessories can be found in Chapter 9 "Accessories".