

Hollow cone nozzles

Absorption
 Chemical process engineering
 Cooling
 Disinfection
 Desuperheating
 Dust control
 Fire protection
 Foam destruction
 Gas treatment
 Humidification of air
 Humidification of goods
 Humidification of textiles
 Oil spraying
 Protection of storage tanks
 Spraying onto filters
 Spraying over germinating boxes
 Water recooling
 and many others...



Hollow cone nozzles

Axial-flow hollow cone nozzles

Wherever a fine, uniform hollow cone spray is needed, e.g. for cooling and cleaning of gas, absorption processes, dust control, product dampening, oil spraying and air humidifying, axial-flow hollow cone nozzles have proved very efficient. The spiral grooves in the swirl inserts ensure an efficient whirling of the liquid. As a result, the contact surface of the atomized liquid is significantly increased within a remarkably narrow droplet spectrum. This creates extraordinarily favourable conditions for mass transfer.



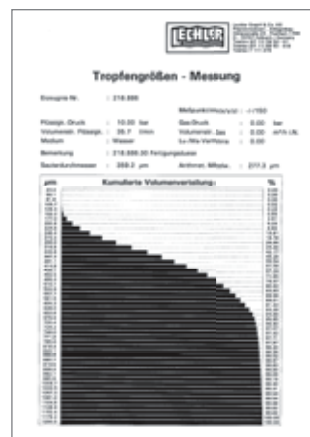
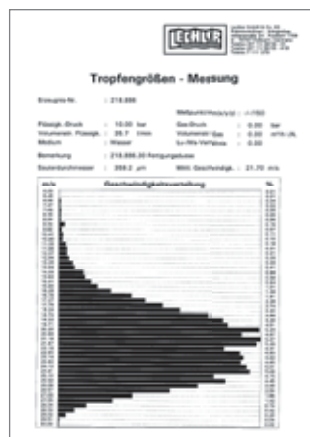
- Finest drop particles
- Narrow free cross-sections
- Maximum spray angle: 90°

Tangential-flow hollow cone nozzles

Tangential-flow hollow cone nozzles provide a very uniform hollow cone spray thanks to a particular flow geometry. Liquid is put into rotation by an eccentricity arranged liquid inlet. Thereby a very uniform liquid distribution is achieved with spray angles up to 130°. Tangential-flow hollow cone nozzles are of a self-cleaning design, offering a high operational safety, even at rather poor water conditions. Typical applications for tangential-flow hollow cone nozzles are: air humidification in air conditioning systems or gas cleaning in chemical and environmental engineering installations.



- Coarser droplets than axial-flow hollow cone nozzles
- Large free cross-sections
- Wide spray angles up to 130°
- Self-cleaning, non-clogging

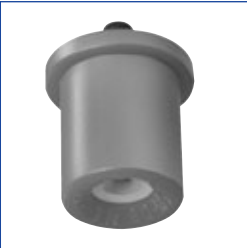


Number/frequency distribution chart

Cumulated volume distribution chart



Hollow cone nozzles

Axial-flow hollow cone nozzles	Series		$\dot{V}$ [l/min] at $p = 2$ bar	Connection	Application/ Design	Page
	212	60° 80°	0.015 – 0.46 (at $p = 7$ bar)	1/4 BSPT 1/4 BSPP	Disinfection, humidification of air, spraying over germinating boxes, product dampening, humidification of textiles, oil spraying, absorption.	2.5
	214	60° 80°	0.08 – 0.32	1/8 BSPP	Cooling and cleaning of air and gas, dust control, spraying onto filters, spray drying, desuperheating	2.6
	216	60° 90°	0.40 – 8.50	3/8 BSPP		
	2TR	80°	0.16 – 1.57	Assembly with 3/8" retaining nut	Humidification of air, cooling and cleaning of gases, dust control, spraying onto filters. Fine, uniform hollow cone spray.	2.7
Tangential-flow hollow cone nozzles	Series		$\dot{V}$ [l/min] at $p = 2$ bar	Connection	Application/ Design	Page
	302	60° 80° 90° 130°	0.40 – 25.00	3/8 BSPP	Humidification of air in air washers, dust control, spraying onto filters, foam control, cooling. Non-clogging nozzle design, without swirl insert.	2.8 2.9



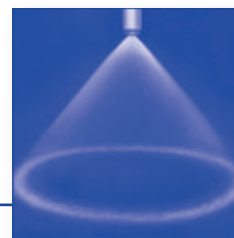
Hollow cone nozzles

Tangential-flow hollow cone nozzles	Series		$\dot{V}$ [l/min] at $p = 2$ bar	Connection	Application/ Design	Page
	308	90°	0.63 – 3.15	3/8 BSPP	Foam destruction, dust control. Flow rate adjustable.	2.8
	302 with bayonet- quick-relea- se system	45° 60° 80° 90° 130°	0.40 – 3.15	Assembly with bayonet quick-release system.	Humidification of air in air washers, dust control, spray- ing onto filters, foam control, cooling. Quick and safe assembly with the aid of a bayonet quick-lock system. Automa- tic setting of spray plane. A time-saving alternative to threaded nozzle designs.	2.10
	350	130°	0.63 – 3.15	3/8 BSPP or quick-lock	Humidification of air in air washers, dust control, spray- ing onto filters, foam control. Extremely fine atomization with a narrow droplet dis- tribution.	2.11
	304 306 307	90° 130°	5.60 – 33.50	1/2 BSPP 3/4 BSPP	Fire fighting, protection of storage tanks, foam control. Non-clogging nozzle design, without swirl insert.	2.12
	373 „Ramp Bottom“	70° 80° 90°	63.00 – 227.00	1 BSPP 1 1/4 BSPP 1 1/2 BSPP	Cooling and cleaning of gas, dust control, water recooling, chemical process enginee- ring. Longer service life thanks to the patented »ramp bot- tom« design of the mixing chamber.	2.13
	309	90°	118.00 – 160.00	1 1/4 BSPP	Less expensive design in plastic material.	



Axial-flow hollow cone nozzles

Series 212



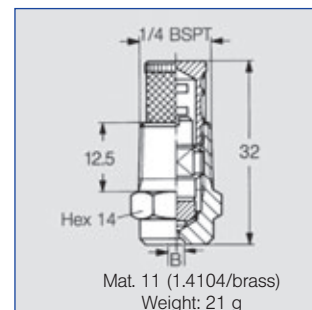
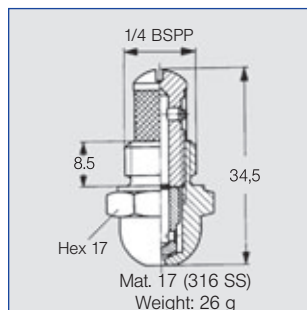
Extremely fine, fog-like hollow cone spray.

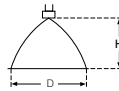
Applications:
Disinfection, humidification of air, spraying over germinating boxes, product humidification, humidification of textiles, spraying of oil, absorption.



1/4 BSPP

1/4 BSPT



Spray angle	Ordering no.					B Ø [mm]	E Ø [mm]	ṽ [l/min]						Spray diameter D at p=7 bar  H = 100 mm	
	Type	Mat. no.		Code				p [bar]							
11	17					2.0	3.0	5.0	7.0	10.0	20.0				
1/4104/Brass	316 SS	1/4 BSPP	1/4 BSPT												

60°	212. 004	-	○	AC	-	0.10	0.10	-	-	0.013	0.015	0.018	0.025	80
	212. 014	-	○	AC	-	0.15	0.15	-	-	0.019	0.023	0.027	0.039	80
	212. 054	-	○	AC	-	0.20	0.15	-	-	0.027	0.033	0.039	0.057	80
80°	212. 085	○*	○**	-	CC	0.25	0.25	-	-	0.040	0.047	0.057	0.080	140
	212. 125	○*	○**	AC	CC	0.35	0.25	-	0.048	0.062	0.073	0.088	0.124	140
	212. 145	○	-	-	CC	0.40	0.30	-	0.063	0.082	0.097	0.116	0.164	140
	212. 165	○	-	-	CC	0.45	0.30	-	0.080	0.103	0.122	0.146	0.206	140
	212. 185	○	-	-	CC	0.50	0.35	-	0.101	0.130	0.154	0.184	0.260	140
	212. 205	○	-	-	CC	0.60	0.35	0.107	0.131	0.168	0.199	0.238	0.336	140
	212. 245	○	-	-	CC	0.70	0.45	0.166	0.202	0.261	0.310	0.370	0.522	140
	212. 285	○*	○**	AC	CC	0.90	0.60	0.262	0.320	0.390	0.460	0.550	0.770	140

B = bore diameter · E = narrowest free cross section

*Only available with code CC

**Only available with code AC

The integrated strainer avoids clogging of the nozzle and increases its service life.

Example	Type	+	Material-No.	+	Code	=	Ordering no.
for ordering:	212. 004	+	17	+	AC	=	212. 004. 17. AC

Materials			
Material no.	Nozzle	Strainer holder	Strainer
11	1.4104	Messing	Monel
17	1.4571	316 SS	316 SS

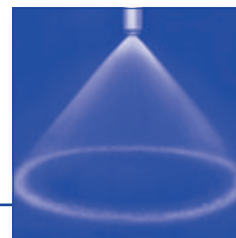
The folded page at the end of the catalogue will give you a survey on the various assembly possibilities.
For complete assembly accessories, please refer to »Accessories«.

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



Axial-flow hollow cone nozzles

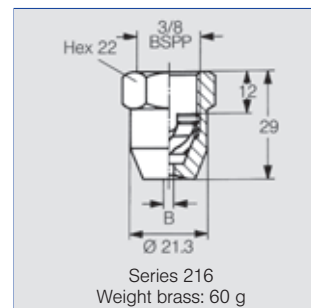
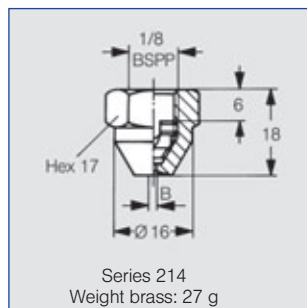
Series 214 / 216

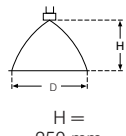


Fine, uniform hollow cone spray.

Applications:

Cooling and cleaning of air and gas, dust control, spraying onto filters, spray drying, desuperheating.



Spray angle	Ordering no.			G	B Ø [mm]	E Ø [mm]	V̇ [l/min]								Spray diameter D at p=3 bar  H = 250 mm
	Type	Mat. no.					p [bar]								
		17	30												
		316 SS	Brass												
							0.5	1.0	2.0	3.0	5.0	10.0	20.0		
60°	214. 184	○	○	1/8"	0.50	0.50	-	-	0.08	0.10	0.13	0.18	0.25	200	
80°	214. 245	○	○	1/8"	1.00	0.50	-	-	0.16	0.20	0.25	0.36	0.51	450	
	214. 305	○	○	1/8"	1.80	0.50	-	0.23	0.32	0.39	0.51	0.72	1.01	450	
60°	216. 324	○	○	3/8"	1.00	1.00	-	0.28	0.40	0.49	0.63	0.89	1.26	200	
	216. 364	○	○	3/8"	1.40	1.40	-	0.45	0.63	0.77	1.00	1.41	1.99	200	
	216. 404	○	○	3/8"	2.00	2.00	-	0.71	1.00	1.22	1.58	2.24	3.16	200	
90°	216. 496	○	○	3/8"	3.00	2.00	-	1.20	1.70	2.08	2.69	3.80	5.38	500	
	216. 566	○	○	3/8"	4.00	2.00	-	1.77	2.50	3.06	3.95	5.59	7.91	500	
	216. 646	○	○	3/8"	3.50	2.00	2.00	2.83	4.00	4.90	6.32	8.94	12.65	500	
	216. 686	○	○	3/8"	4.00	2.00	2.50	3.54	5.00	6.12	7.91	11.18	15.81	500	
	216. 726	○	○	3/8"	5.00	2.00	3.15	4.45	6.30	7.72	9.96	14.09	19.92	500	
	216. 776	○	○	3/8"	6.00	2.00	4.30	6.00	8.50	10.40	13.40	19.00	26.90	500	

B = bore diameter · E = narrowest free cross section

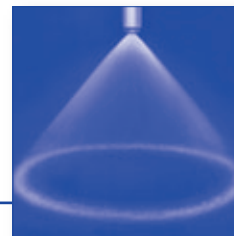
Example	Type	+	Material no.	=	Ordering no.
for ordering	214. 184	+	17	=	214. 184. 17

The folded page at the end of the catalogue will give you a survey on the various assembly possibilities.

For complete assembly accessories, please refer to »Accessories«.



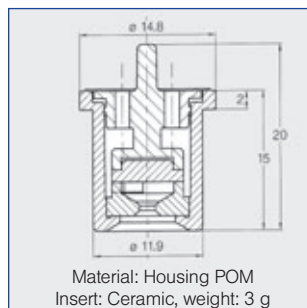
Axial-flow hollow cone nozzles for retaining nut Series 2TR

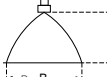


**Hollow con nozzle with
ceramic insert. Assembly
with retaining nut. Fine,
uniform hollow cone spray.**

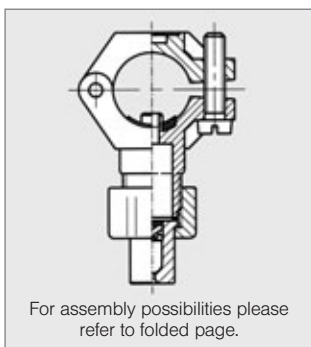
Applications:

Humidification of air, cooling
and cleaning of gases, dust
control, spraying onto filters.



Spray angle	Ordering no.	Colour	B Ø [mm]	E Ø [mm]	V̇ [l/min]						Spray diameter D at p=3 bar  H = 250 mm
	Type				p [bar] [p _{max} = 20 bar]						
					1.0	2.0	3.0	5.0	7.0	10.0	
80°	2TR. 245. C8	lilac	0.65	0.55	-	0.16	0.20	0.25	0.30	0.36	450
	2TR. 275. C8	black	0.80	0.70	0.16	0.22	0.27	0.35	0.41	0.49	450
	2TR. 305. C6	orange	0.90	0.80	0.23	0.32	0.39	0.51	0.60	0.72	450
	2TR. 345. C6	green	1.10	0.90	0.34	0.48	0.59	0.76	0.90	1.07	450
	2TR. 365. C6	yellow	1.40	0.95	0.45	0.63	0.78	1.01	1.19	1.42	450
	2TR. 405. C6	blue	1.70	1.10	0.68	0.96	1.17	1.52	1.79	2.14	450
	2TR. 445. C6	red	2.00	1.20	0.89	1.26	1.55	2.02	2.37	2.83	450
	2TR. 485. C6	brown	2.20	1.30	1.11	1.57	1.94	2.50	2.96	3.54	450

B = bore diameter · E = narrowest free cross section



**The folded page at the end of the catalogue will give you a
survey on the various assembly possibilities.**

**For complete assembly accessories, please refer to
»Accessories«.**

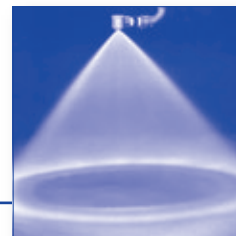
Conversion formula for the above series: $\dot{V}_2 = \dot{V}_1 \cdot \sqrt{\frac{p_2}{p_1}}$



Tangential-flow hollow cone nozzles

Brass versions

Series 302/308



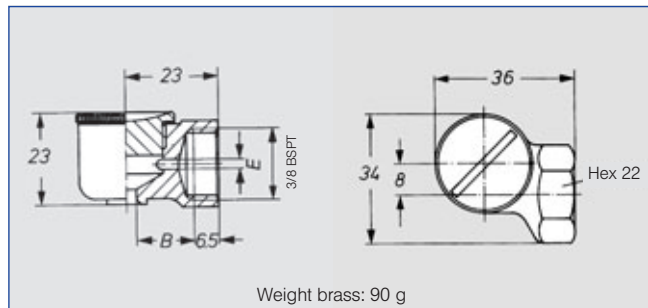
Uniform hollow cone spray. Non-clogging nozzle, with- out swirl insert.

Applications:

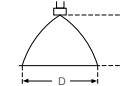
Humidification of air in air washers, dust control, spraying onto filters, foam control, cooling.



Series 302



Weight brass: 90 g

 Spray angle	Ordering no.			B Ø [mm]	E Ø [mm]	V̇ [l/min]								Spray diameter D at p=2 bar	
	Type	Mat. no.				p [bar]								 H = 250 mm H = 500 mm	
		30	1Y												
		Brass	1.4404												
60°	302. 364	○	–	1.50	1.50	0.31	0.45	0.63	0.77	1.00	1.18	1.41	200	350	
	302. 464	○	○	2.00	2.00	0.70	0.99	1.40	1.71	2.21	2.62	3.13	300	560	
80°	302. 545	○	○	4.90	2.30	1.12	1.58	2.24	2.74	3.54	4.19	5.01	400	700	
90°	302. 606	○	○	4.60	4.00	1.57	2.23	3.15	3.86	4.98	5.89	7.04	450	750	
130°	302. 368	○	○	3.00	1.00	0.31	0.45	0.63	0.77	1.00	1.18	1.41	800	1500	
	302. 468	○	○	5.00	1.70	0.70	0.99	1.40	1.71	2.21	2.62	3.13	800	1500	
	302. 548	○	–	5.00	2.50	1.12	1.58	2.24	2.74	3.54	4.19	5.01	800	1500	
	302. 608	○	○	5.00	3.50	1.57	2.23	3.15	3.86	4.98	5.89	7.04	1000	1800	
	302. 668	○	–	7.50	3.60	2.25	3.18	4.50	5.51	7.12	8.42	10.06	1200	2000	
	302. 748	○	–	7.50	4.80	3.55	5.02	7.10	8.70	11.23	13.28	15.88	1200	2000	

B = bore diameter · E = narrowest free cross section

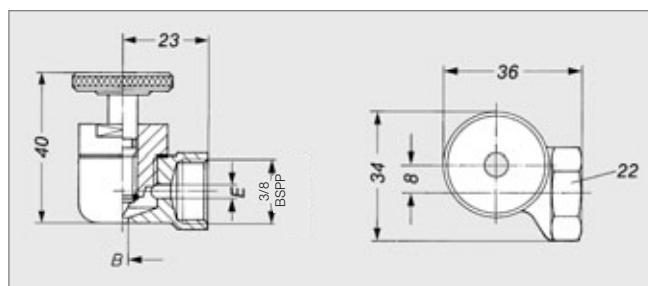
Flow rate adjustable. Decrease in flow rate cau- ses narrower spray angle.

Applications:

Dust control, foam control.



Series 308



Spray angle	Ordering no.		B Ø [mm]	E Ø [mm]	$\dot{V}_{max}$ [l/min]						Spray diameter D at p=2 bar	
	Type	Mat- Nr.			p [bar]							
30	Brass	0.3	0.5	1.0	2.0	5.0	10.0	H = 250 mm	H = 500 mm			
90°	308. 466	●	2.0	2.0	0.54	0.70	1.00	1.40	2.21	3.13	400	880
	308. 606	○	4.0	4.0	1.22	1.58	2.23	3.15	4.98	7.04	450	950

B = bore diameter · E = narrowest free cross section

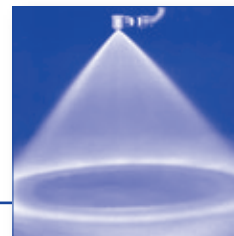
Example for ordering	Type 308. 466	+	Material no. 30	=	Ordering no. 308. 466. 30
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Tangential-flow hollow cone nozzles

Plastic version

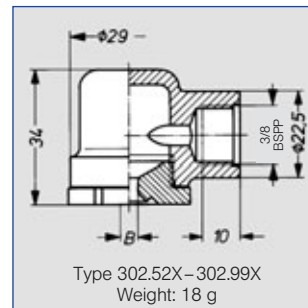
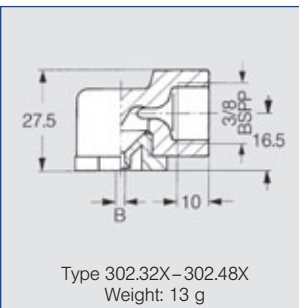
Series 302

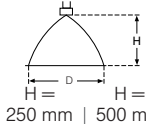


Uniform hollow cone spray. Non-clogging nozzle, with- out swirl insert.

Applications:

Humidification of air in air washers, dust control, spraying onto filters, foam control, cooling.



Spray angle	Ordering no.				B Ø [mm]	E Ø [mm]	V̇ [l/min]							Spray diameter D at p=2 bar 	
	Type	Mat. no.					p [bar]								
		5E	51	53			0.5	1.0	2.0	[US gal/ min] at 40 psi	3.0	5.0	10.0		
														P/DF	PA
60°	302. 364	-	○	○	1.50	1.50	0.31	0.45	0.63	0.20	0.77	1.00	1.41	200	350
	302. 464	-	○	○	3.80	1.95	0.70	0.99	1.40	0.43	1.71	2.21	3.13	300	560
90°	302. 326	○	○	-	1.20	0.90	0.20	0.28	0.40	0.12	0.49	0.63	0.89	400	700
	302. 366	○	○	-	2.10	1.30	0.31	0.45	0.63	0.20	0.77	1.00	1.41	400	880
	302. 406	○	○	○	2.60	1.40	0.50	0.71	1.00	0.31	1.22	1.58	2.24	400	880
	302. 486	-	○	○	2.60	2.60	0.80	1.13	1.60	0.50	1.96	2.53	3.58	400	880
	302. 526	-	○	○	5.00	2.00	1.00	1.41	2.00	0.62	2.45	3.16	4.47	400	880
	302. 566	-	○	○	5.00	2.40	1.25	1.77	2.50	0.78	3.06	3.95	5.59	400	880
	302. 606	-	○	○	5.00	3.20	1.57	2.23	3.15	0.98	3.86	4.98	7.04	450	950
	302. 686	-	○	-	7.50	3.40	2.50	3.45	5.00	1.55	6.12	7.91	11.18	500	1050
	302. 766	-	○	-	9.00	4.30	4.00	5.66	8.00	2.48	9.80	12.65	17.89	500	1050
	302. 846	-	○	○	11.00	5.20	6.25	8.84	12.50	3.88	15.31	19.67	27.95	550	1130
302. 886	○	○	-	11.00	6.40	8.00	11.31	16.00	4.96	19.60	25.30	35.78	550	1130	
302. 966	-	○	-	11.00	8.60	12.50	17.68	25.00	7.75	30.62	39.53	55.90	550	1130	
130°	302. 328	○	-	-	1.35	0.80	0.20	0.28	0.40	0.12	0.49	0.63	0.89	700	1380
	302. 368	○	○	-	1.85	1.10	0.31	0.45	0.63	0.20	0.77	1.00	1.41	700	1380
	302. 408	○	○	-	3.65	1.30	0.50	0.71	1.00	0.31	1.22	1.58	2.24	700	1380
	302. 488	-	○	○	5.20	1.60	0.80	1.13	1.60	0.50	1.96	2.53	3.58	700	1380
	302. 528	-	○	-	5.00	2.00	1.00	1.41	2.00	0.62	2.45	3.16	4.47	700	1380
	302. 568	-	○	-	5.00	2.40	1.25	1.77	2.50	0.78	3.06	3.95	5.59	780	1520
	302. 608	○	○	○	5.00	3.20	1.57	2.23	3.15	0.98	3.86	4.98	7.04	780	1520
	302. 648	-	○	-	7.50	3.00	2.00	2.83	4.00	1.20	4.90	6.32	8.94	950	1850
	302. 688	-	○	-	7.50	3.40	2.50	3.54	5.00	1.55	6.12	7.91	11.18	950	1850
	302. 728	-	○	-	7.50	4.10	3.15	4.45	6.30	1.89	7.72	9.96	14.09	950	1850
	302. 768	-	○	-	9.00	4.30	4.00	5.66	8.00	2.48	9.80	12.65	17.89	950	1850
	302. 848	-	○	-	11.00	5.20	6.25	8.84	12.50	3.88	15.31	19.76	27.95	950	1850
	302. 888	-	○	○	11.00	6.40	8.00	11.31	16.00	4.96	19.60	25.30	35.78	950	1850
	302. 968	○	○	-	11.00	8.60	12.50	17.68	25.00	7.75	30.62	39.53	55.90	950	1850

B = bore diameter · E = narrowest free cross section

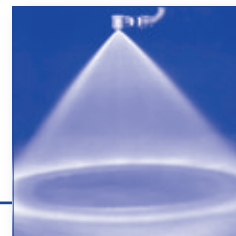
The folded page at the end of the catalogue will give you a survey on the various assembly possibilities.
For complete assembly accessories, please refer to »Accessories«.

Example	Type	+	Material no.	=	Ordering no.
for ordering	302. 364	+	51	=	302. 364. 51

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

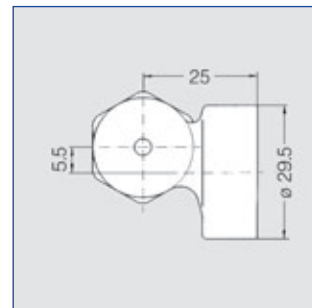
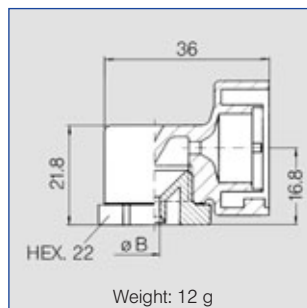


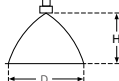
Tangential-flow hollow cone nozzles Bayonet quick-release system Series 302



A time-saving alternative to threaded design. Quick and secure assembling. Automatic setting of spray direction.

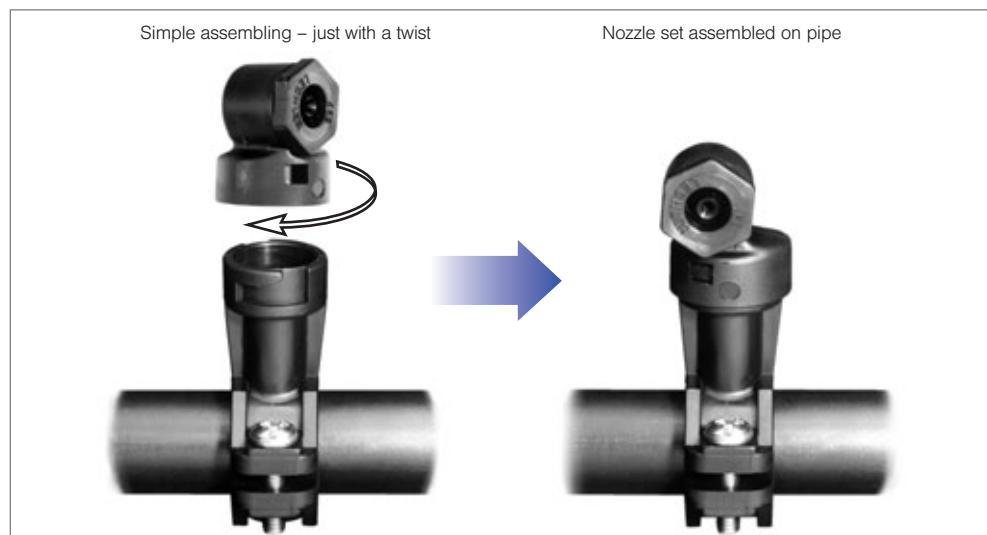
Applications:
Humidification of air in air washers, dust control, spraying onto filters, foam control.



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]								
		51	56				0.5	1.0	2.0	US [gal/min] at 40 psi	3.0	4.0	10.0		
		PA	POM											Bayonet-quick release	
45°	302. 503	○	-	KB	2.05	2.05	0.90	1.27	1.80	0.56	2.20	2.85	4.02	H = 250 mm	H = 500 mm
60°	302. 464	-	○	KB	1.95	1.95	0.70	0.99	1.40	0.43	1.71	2.21	3.13	300	560
80°	302. 545	-	○	KB	2.30	2.30	1.12	1.58	2.24	0.69	2.74	3.54	5.01	400	700
90°	302. 326	○	○	KB	1.05	1.05	0.20	0.28	0.40	0.12	0.49	0.63	0.89	400	700
	302. 406	○	○	KB	1.55	1.55	0.50	0.71	1.00	0.31	1.22	1.58	2.24	400	880
	302. 486	○	-	KB	2.10	2.10	0.80	1.13	1.60	0.50	1.96	2.53	3.58	400	880
	302. 606	○	-	KB	5.00	3.20	1.58	2.23	3.15	0.98	3.86	4.98	7.04	450	880
130°	302. 368	-	○	KB	1.30	1.30	0.31	0.45	0.63	0.20	0.77	1.00	1.41	700	1380
	302. 408	○	○	KB	2.00	2.00	0.50	0.71	1.00	0.31	1.22	1.58	2.24	700	1380
	302. 468	○	-	KB	2.40	2.40	0.70	0.99	1.40	0.43	1.71	2.21	3.13	700	1380
	302. 488	○	-	KB	2.75	2.75	0.80	1.13	1.60	0.50	1.96	2.53	3.58	700	1380

B = bore diameter · E = narrowest free cross section

Example Type + Material no. + Code = Ordering no.
for ordering: 302. 503 + 51 + KB = 302. 503. 51. KB

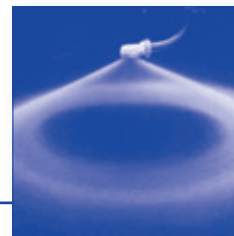


The folded page at the end of the catalogue will give you a survey on the various assembly possibilities. For complete assembly accessories, please refer to »Accessories«.



Tangential-flow hollow cone nozzles

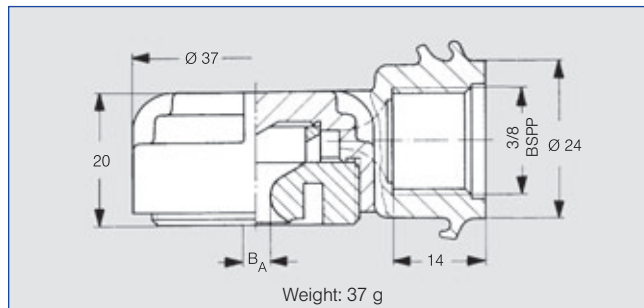
Series 350



High-performance eccentric spray nozzles for air-conditioning. Narrow drop spectrum and extremely uniform distribution of liquid over the entire spray pattern.

Applications:

Humidification of air in air washers, dust control, spraying onto filters, foam control.

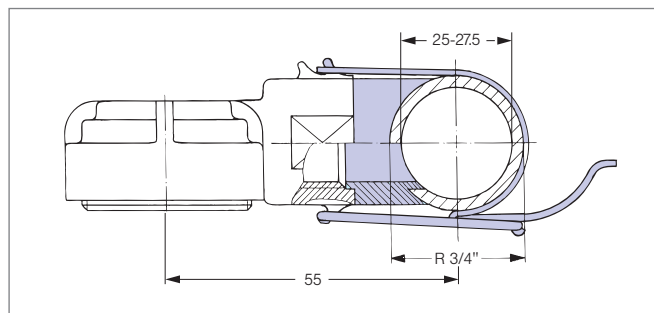


Spray angle	Ordering no.		B Ø [mm]	E Ø [mm]	ṽ [l/min]							Spray diameter D at p=2 bar	
	Type	Mat.- Nr.			p [bar]								
					p _{max} : 20 bar								
		POM			0.5	1.0	2.0	3.0	5.0	7.0	10.0	H = 250 mm	H = 500 mm
130°	350. 368	○	1.55	0.70	0.32	0.45	0.63	0.77	1.00	1.18	1.41	1120	2000
	350. 608	○	5.00	1.40	1.58	2.23	3.15	3.86	4.98	5.89	7.04	1140	2100

B = bore diameter · E = narrowest free cross section

Example for ordering:	Type	+	Material no.	=	Ordering no.
	350. 368	+	56	=	350. 368. 56

Accessories



Quick snap clamp unit · **Ord.-no.: 035. 030. 15. 05. 00. 0**
consisting of: Stainless steel clamp and polyurethan gasket

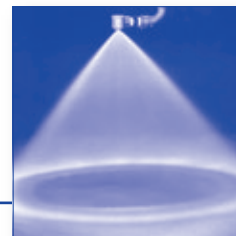
Bore-ø: 18 mm

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



Tangential-flow hollow cone nozzles

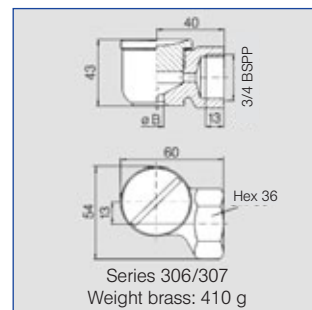
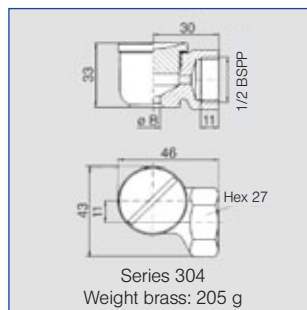
Series 304/306/307

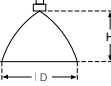


Uniform hollow cone spray.
Non-clogging nozzle,
without swirl insert.

Applications:

Fire fighting, protection of
storage tanks, foam control.

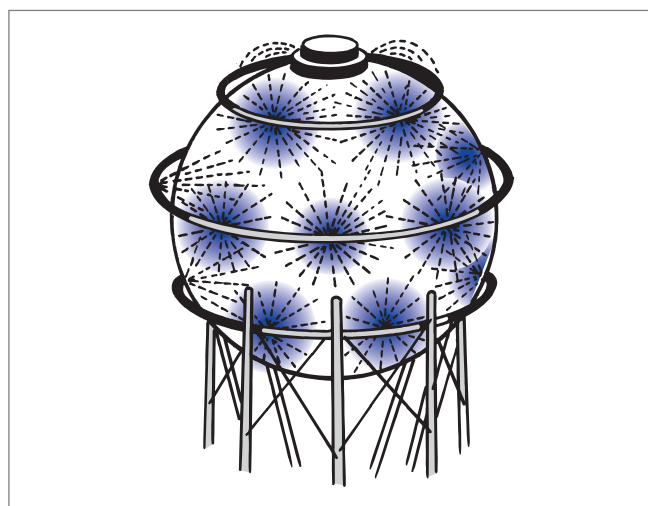


 Spray angle	Ordering no.			G	B Ø [mm]	E Ø [mm]	V̇ [l/min]								Spray diameter D at p=2 bar 	
	Type	Mat. no.					p [bar]									
		30	1Y													
		Brass	316L													
				BSPP			0.5	1.0	2.0	3.0	5.0	7.0	10.0	H = 250 mm	H = 500 mm	
90°	304. 706	○	○	1/2"	5.10	5.10	2.80	3.96	5.60	6.86	8.85	10.47	12.52	450	750	
	304. 796	○	○	1/2"	8.90	6.00	4.75	6.72	9.50	11.64	15.02	17.77	21.24	450	750	
	306. 906	○	○	3/4"	9.00	9.00	9.00	12.73	18.00	22.05	28.46	33.68	40.25	470	850	
	306. 976	○	○	3/4"	13.50	10.00	13.25	18.74	26.50	32.46	41.90	49.58	59.26	470	850	
130°	304. 818	○	–	1/2"	12.00	5.00	5.30	7.50	10.60	12.98	16.76	19.83	23.70	1400	1800	
	304. 898	○	○	1/2"	12.00	7.00	8.50	12.02	17.00	20.82	26.88	31.80	38.01	1400	1800	
	306. 978	○	–	3/4"	19.00	7.30	13.25	18.74	26.50	32.46	41.90	49.58	59.25	1450	2400	
	307. 018	○	○	3/4"	19.00	8.60	16.75	23.69	33.50	41.03	52.97	62.67	74.91	1450	2400	

B = bore diameter · E = narrowest free cross section

Example	Type	+	Material no.	=	Ordering no.
for ordering:	304. 706	+	30	=	304. 706. 30

The folded page at the end of the catalogue will give you a
survey on the various assembly possibilities.
For complete assembly accessories, please refer to
»Accessories«.



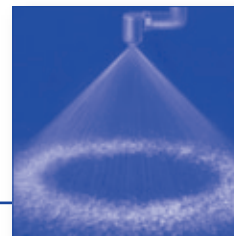
Fire protection on spherical storage tank.

For further informations please ask for our brochure about fire
protection.



Tangential-flow hollow cone nozzles

Series 373 »Ramp Bottom«/309



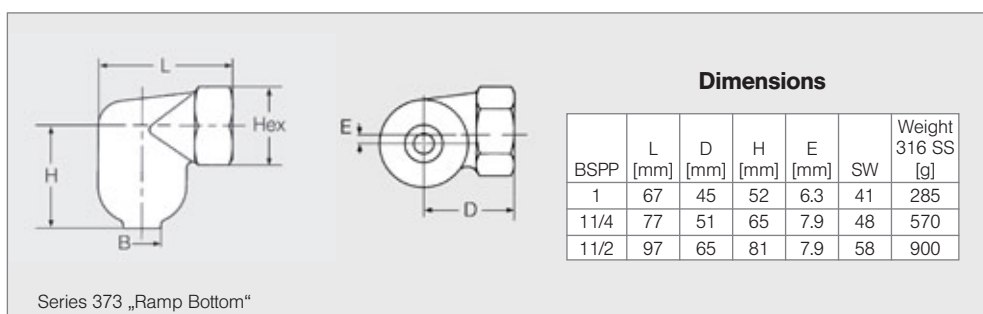
Fine, uniform hollow cone spray, also at low pressures.

Applications:
cooling and cleaning of gas,
water re-cooling, dust control,
chemical process engineering.

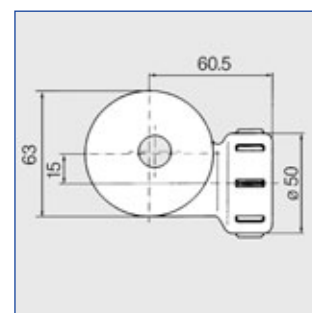
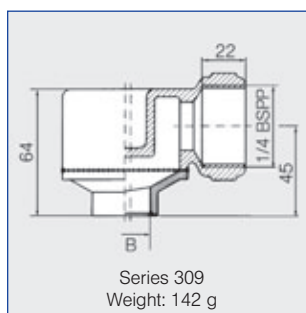


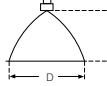
Sectional view of a series 373
»Ramp Bottom« nozzle

**»Ramp Bottom« design
offering a longer service life,
due to the patented »sloping«
bottom of mixing chamber.**



**Less expensive plastic version,
with low requirements
on temperature and scuff
resistance.**



Spray angle	Ordering no.					B Ø [mm]	V̇ [l/min]						Spray diameter D at p=2 bar		
	Type	Mat. no. 17	Code				p [bar]								
			316 SS	1 BSPP	1 1/4 BSPP		1 1/2 BSPP	0.3	0.5	1.0	2.0	5.0			10.0
70°	373. 115	○	AN	-	-	11.40	24.40	31.50	44.50	63.00	99.60	141.00	H = 500 mm	H = 1000 mm	
80°	373. 175	○	AN	-	-	12.90	31.00	40.00	56.60	80.00	126.00	179.00	800	1550	
	373. 235	○	-	AQ	-	16.20	45.70	59.00	83.40	118.00	187.00	264.00	700	1350	
	373. 285	○	-	AQ	-	20.50	62.00	80.00	113.00	160.00	253.00	358.00	800	1550	
	373. 325	○	-	-	AS	22.20	77.50	100.00	141.00	200.00	316.00	447.00	800	1550	
	373. 365	○	-	-	AS	23.60	67.90	114.00	161.00	227.00	359.00	508.00	700	1400	

Plastic version:

90°	309. 236. 5E	(Material PVDF)	20.00	45.70	59.00	83.40	118.00	187.00	264.00	850	1500
	309. 286. 5E	(Material PVDF)	24.00	62.00	80.00	113.00	160.00	253.00	358.00	750	1400

B = bore diameter

Example **Type** + **Material no.** + **Code** = **Ordering no.**
for ordering 373. 115 + 17 + AN = 373. 115. 17. AN

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