

**ENGINEERING
YOUR SPRAY SOLUTION**



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
- Narrowest 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 narrowest free cross-sections
- Wide spray angles up to 130°
- Self-cleaning, non-clogging





Hollow cone nozzles

Axial-flow hollow cone nozzles	Series		\dot{V} [l/min] at p = 2 bar	Connection	Application/ Design	Page
	220	60° 80°	0.013 – 0.390 (at p = 5 bar)	1/4 BSPP	Disinfection, humidification, cooling. Extremely fine, fog-like hollow cone spray.	2.5
	226	60° 80°	0.013 – 0.390 (at p = 5 bar)	Assembly with 3/8 retaining nut	Disinfection, humidification, cooling. Hollow cone nozzle for assembly with retaining nut. Extremely fine, fog-like hollow cone spray.	2.6
	214 216	60° 80° 60° 90°	0.08 – 0.32 0.40 – 8.50	1/8 BSPP 3/8 BSPP	Cooling and cleaning of air and gas, dust control, spraying onto filters, spray drying, desuperheating.	2.7
	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.	2.8
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.	2.9 2.10



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.	2.9
	302 with bayonet-quick-release system	45° 60° 80° 90° 130°	0,40 – 3,15	Assembly with bayonet quick-release system.	Humidification of air in air washers, dust control, spraying onto filters, foam control, cooling. Quick and safe assembly with the aid of a bayonet quick-lock system. Automatic setting of spray plane. A time-saving alternative to threaded nozzle designs.	2.11
	350	130°	0,63 – 3,15	3/8 BSPP or quick-lock	Humidification of air in air washers, dust control, spraying onto filters, foam control. Extremely fine atomization with a narrow droplet distribution.	2.12
	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.	2.13
	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 engineering. Longer service life thanks to the patented »ramp bottom« design of the mixing chamber.	2.14



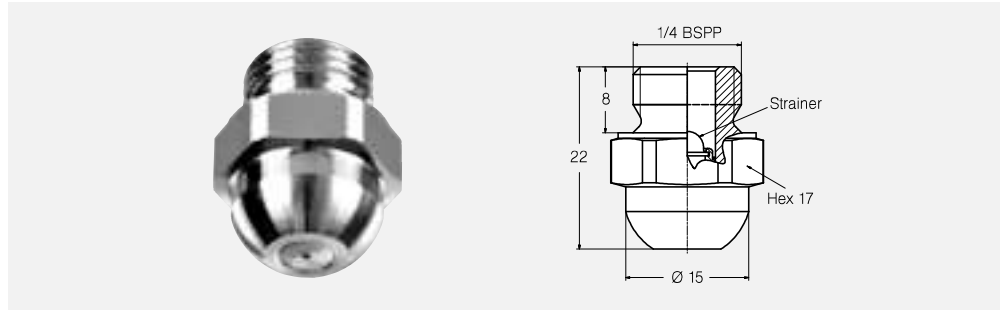
Axial-flow hollow cone nozzles Series 220




Extremely fine, fog-like hollow cone spray.

Applications:

Disinfection, humidification, cooling.



Hollow cone nozzles

Spray angle	Ordering no.				B Ø [mm]	E Ø [mm]	Mesh size [mm]	V̇ [l/min]								Spray diameter D at p = 5 bar  H = 100 mm
	Type	Mat. no.		Code				p [bar]								
		11 430F SS*	1Y 316L SS*					1/4 BSPP	2.0	3.0	5.0	7.0	10.0	20.0	50.0	
60°	220,004	○	○	AC	0.10	0.10	0.04	-	-	0.013	0.015	0.018	0.026	0.041	0.058	100
	220,014	○	○	AC	0.15	0.15	0.04	-	0.015	0.019	0.022	0.027	0.038	0.060	0.085	100
	220,054	○	○	AC	0.20	0.15	0.04	0.017	0.021	0.027	0.032	0.038	0.054	0.085	0.121	100
80°	220,085	○	○	AC	0.25	0.25	0.10	0.025	0.031	0.040	0.047	0.057	0.080	0.126	0.179	140
	220,125	○	○	AC	0.35	0.35	0.10	0.039	0.048	0.062	0.073	0.088	0.124	0.196	0.277	140
	220,145	○	○	AC	0.40	0.40	0.10	0.052	0.064	0.082	0.097	0.116	0.164	0.259	0.367	140
	220,165	○	○	AC	0.45	0.45	0.10	0.065	0.080	0.103	0.122	0.146	0.206	0.326	0.461	140
	220,185	○	○	AC	0.55	0.35	0.20	0.082	0.101	0.130	0.154	0.184	0.260	0.411	0.581	140
	220,205	○	○	AC	0.60	0.35	0.20	0.106	0.130	0.168	0.199	0.238	0.336	0.531	0.751	140
	220,245	○	○	AC	0.70	0.50	0.20	0.165	0.202	0.261	0.309	0.369	0.522	0.825	1.167	140
	220,285	○	○	AC	0.90	0.55	0.20	0.247	0.302	0.390	0.461	0.552	0.780	1.233	1.744	140

B = bore diameter · E = narrowest free cross section

Example Type + Material-no. + Code = Ordering no.
for ordering: 220,004 + 1Y + AC = 220,004,1Y,AC

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

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«.

*** Materials**

Mat. no.	Housing	Nozzle insert	Strainer
11	430F SS	430F SS	316L SS
1Y	316L SS	316L SS	316L SS

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



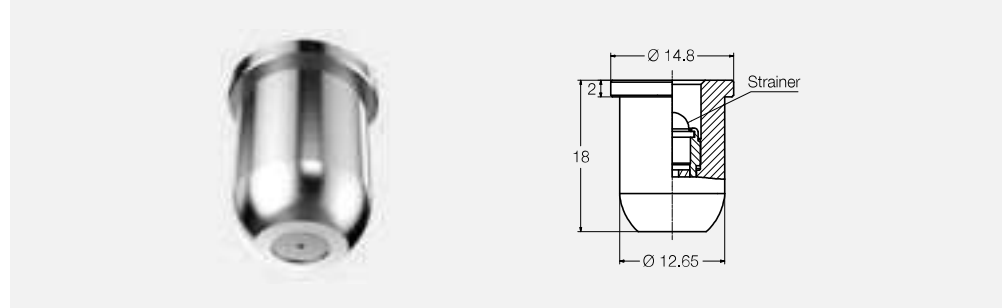
Axial-flow hollow cone nozzles for retaining nut Series 226





Hollow cone nozzle for assembly with retaining nut. Extremely fine, fog-like hollow cone spray.

Applications:

Disinfection, humidification, cooling.



Spray angle 	Ordering no.		B Ø [mm]	E Ø [mm]	Mesh size [mm]	V̇ [l/min]								Spray diameter D at p = 5 bar  H = 100 mm
	Type	Mat. no.				p [bar]								
		16 303 SS*				2.0	3.0	5.0	7.0	10.0	20.0	50.0	100.0	
60°	226,004	○	0.10	0.10	0.04	-	-	0.013	0.015	0.018	0.026	0.041	0.058	100
	226,014	○	0.15	0.15	0.04	-	0.015	0.019	0.022	0.027	0.038	0.060	0.085	100
	226,054	○	0.20	0.15	0.04	0.017	0.021	0.027	0.032	0.038	0.054	0.085	0.121	100
80°	226,085	○	0.25	0.25	0.10	0.025	0.031	0.040	0.047	0.057	0.080	0.126	0.179	140
	226,125	○	0.35	0.35	0.10	0.039	0.048	0.062	0.073	0.088	0.124	0.196	0.277	140
	226,145	○	0.40	0.40	0.10	0.052	0.064	0.082	0.097	0.116	0.164	0.259	0.367	140
	226,165	○	0.45	0.45	0.10	0.065	0.080	0.103	0.122	0.146	0.206	0.326	0.461	140
	226,185	○	0.55	0.35	0.20	0.082	0.101	0.130	0.154	0.184	0.260	0.411	0.581	140
	226,205	○	0.60	0.35	0.20	0.106	0.130	0.168	0.199	0.238	0.336	0.531	0.751	140
	226,245	○	0.70	0.50	0.20	0.165	0.202	0.261	0.309	0.369	0.522	0.825	1.167	140
	226,285	○	0.90	0.55	0.20	0.247	0.302	0.390	0.461	0.552	0.780	1.233	1.744	140

B = bore diameter · E = narrowest free cross section

Example for ordering: Type 226,004 + Material-no. 16 = Ordering no. 226,004,16

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

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«.

*** Materials**

Mat. no.	Housing	Nozzle insert	Strainer
16	303 SS	430F SS	316L SS



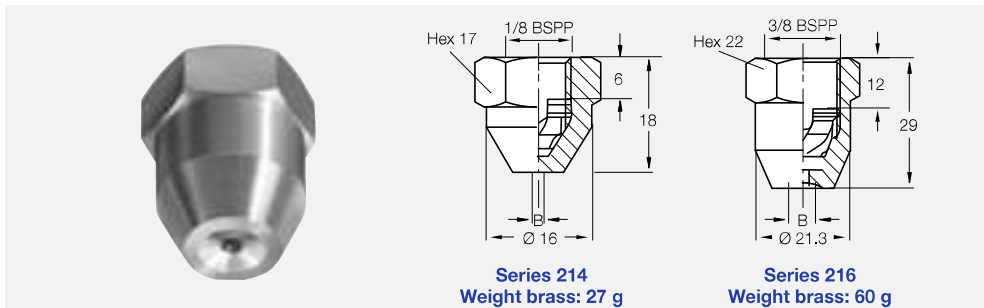
Axial-flow hollow cone nozzles Series 214/216





Fine, uniform hollow cone spray.

Applications:

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



Hollow cone nozzles

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 316Ti SS				30 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
		○	○				-	-	0.16	0.20	0.25	0.36	0.51	
80°	214.245	○	○	1/8	1.00	0.50	-	-	0.16	0.20	0.25	0.36	0.51	450
		○	○				-	0.23	0.32	0.39	0.51	0.72	1.01	
60°	216.324	○	○	3/8	1.00	1.00	-	0.28	0.40	0.49	0.63	0.89	1.26	200
		○	○				-	0.45	0.63	0.77	1.00	1.41	1.99	
		○	○				-	0.71	1.00	1.22	1.58	2.24	3.16	
90°	216.496	○	○	3/8	3.00	2.00	-	1.20	1.70	2.08	2.69	3.80	5.38	500
		○	○				-	1.77	2.50	3.06	3.95	5.59	7.91	
		○	○				2.00	2.83	4.00	4.90	6.32	8.94	12.65	
		○	○				2.50	3.54	5.00	6.12	7.91	11.18	15.81	
		○	○				3.15	4.45	6.30	7.72	9.96	14.09	19.92	
		○	○				4.30	6.00	8.50	10.40	13.40	19.00	26.90	

B = bore diameter · E = narrowest free cross section

Example for ordering	Type	+	Material no.	=	Ordering no.
	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«.

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



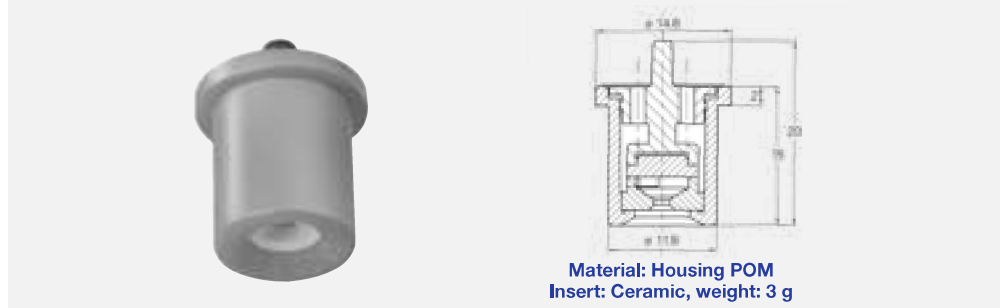
Axial-flow hollow cone nozzles for retaining nut Series 2TR





Hollow cone 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.

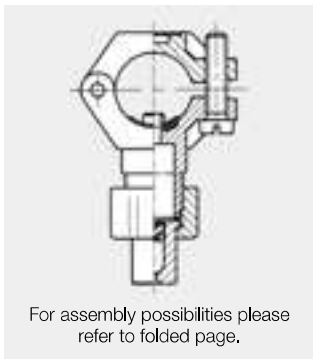


**Material: Housing POM
Insert: Ceramic, weight: 3 g**

Spray angle 	Ordering no. Type	Colour	B Ø [mm]	E Ø [mm]	Ṃ [l/min]						Spray diameter D at p = 3 bar  H = 250 mm
					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.C8	orange	0,90	0,80	0,23	0,32	0,39	0,51	0,60	0,72	450
	2TR.345.C8	green	1,10	0,90	0,34	0,48	0,59	0,76	0,90	1,07	450
	2TR.365.C8	yellow	1,40	0,95	0,45	0,63	0,78	1,01	1,19	1,42	450
	2TR.405.C8	blue	1,70	1,10	0,68	0,96	1,17	1,52	1,79	2,14	450
	2TR.445.C8	red	2,00	1,20	0,89	1,26	1,55	2,02	2,37	2,83	450
	2TR.485.C8	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«.



For assembly possibilities please refer to folded page.



Tangential-flow hollow cone nozzles

Brass versions

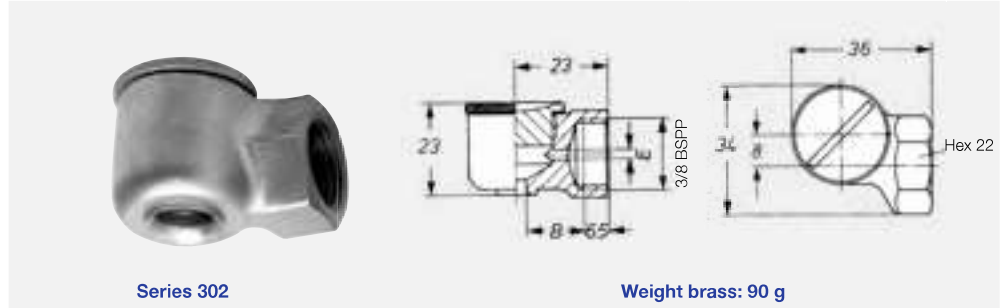
Series 302/308



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

Applications:

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



Series 302

Weight brass: 90 g

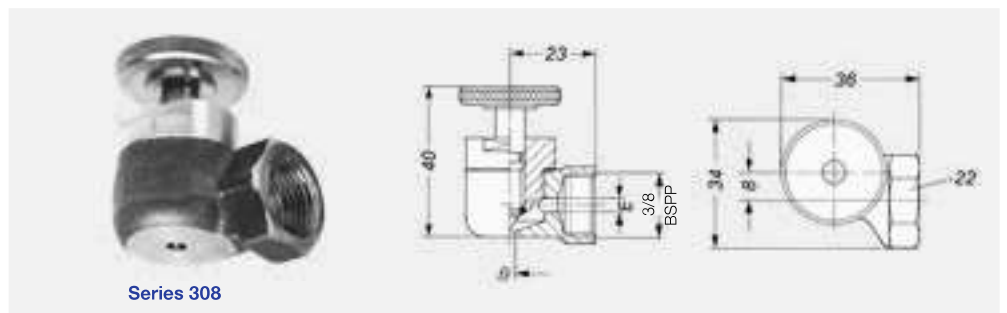
Spray angle	Ordering no.		B Ø [mm]	E Ø [mm]	V̇ [l/min]								Spray diameter D at p = 2 bar		
	Type	Mat. no.			p [bar]								H = 250 mm	H = 500 mm	
		30			1Y	0.5	1.0	2.0	3.0	5.0	7.0	10.0			
60°	302.364	○	-	1.50	1.50	0.31	0.45	0.63	0.77	1.00	1.18	1.41	200	350	
	302.464	○	○	2.00	2.00	0.70	0.99	1.40	1.71	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	1,500	
	302.468	○	○	5.00	1.70	0.70	0.99	1.40	1.71	2.21	2.62	3.13	800	1,500	
	302.548	○	-	5.00	2.50	1.12	1.58	2.24	2.74	3.54	4.19	5.01	800	1,500	
	302.608	○	○	5.00	3.50	1.57	2.23	3.15	3.86	4.98	5.89	7.04	1,000	1,800	
	302.668	○	-	7.50	3.60	2.25	3.18	4.50	5.51	7.12	8.42	10.06	1,200	2,000	
	302.748	○	-	7.50	4.80	3.55	5.02	7.10	8.70	11.23	13.28	15.88	1,200	2,000	

B = bore diameter · E = narrowest free cross section

Flow rate adjustable. Decrease in flow rate causes narrower spray angle.

Applications:

Dust control, foam control.



Series 308

Spray angle	Ordering no.		B Ø [mm]	E Ø [mm]	V̇ _{max} [l/min]						Spray diameter D 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	○	2.0	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	+	Material no.	=	Ordering no.
	308.466	+	30	=	308.466.30

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



Tangential-flow hollow cone nozzles

Plastic version

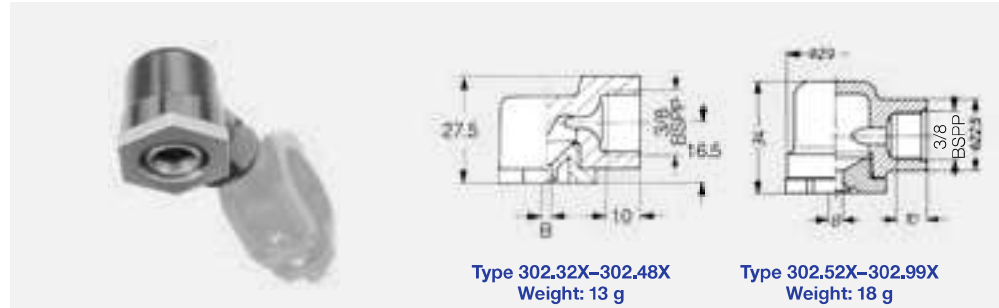
Series 302





Uniform hollow cone spray. Non-clogging nozzle, without 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]						H = 250 mm	H = 500 mm
		5E	51	53			0.5	1.0	2.0	3.0	5.0	10.0		
60°	302.364	-	○	○	1,30	1,30	0,31	0,45	0,63	0,77	1,00	1,41	200	350
	302.464	-	○	○	1,95	1,95	0,70	0,99	1,40	1,71	2,21	3,13	300	560
90°	302.326	○	○	-	1,05	1,05	0,20	0,28	0,40	0,49	0,63	0,89	400	700
	302.366	○	○	-	1,30	1,30	0,31	0,45	0,63	0,77	1,00	1,41	400	880
	302.406	○	○	○	1,55	1,55	0,50	0,71	1,00	1,22	1,58	2,24	400	880
	302.486	-	○	○	2,10	2,10	0,80	1,13	1,60	1,96	2,53	3,58	400	880
	302.526	-	○	○	5,00	2,00	1,00	1,41	2,00	2,45	3,16	4,47	400	880
	302.566	-	○	○	5,00	2,40	1,25	1,77	2,50	3,06	3,95	5,59	400	880
	302.606	-	○	○	5,00	3,20	1,57	2,23	3,15	3,86	4,98	7,04	450	950
	302.686	-	○	-	7,50	3,40	2,50	3,45	5,00	6,12	7,91	11,18	500	1,050
	302.766	-	○	-	9,00	4,30	4,00	5,66	8,00	9,80	12,65	17,89	500	1,050
	302.846	-	○	○	11,00	5,20	6,25	8,84	12,50	15,31	19,67	27,95	550	1,130
	302.886	○	○	○	11,00	6,40	8,00	11,31	16,00	19,60	25,30	35,78	550	1,130
302.966	-	○	-	11,00	8,60	12,50	17,68	25,00	30,62	39,53	55,90	550	1,130	
130°	302.328	○	-	-	1,35	0,80	0,20	0,28	0,40	0,49	0,63	0,89	700	1,380
	302.368	○	○	-	1,85	1,10	0,31	0,45	0,63	0,77	1,00	1,41	700	1,380
	302.408	○	○	-	3,65	1,30	0,50	0,71	1,00	1,22	1,58	2,24	700	1,380
	302.488	-	○	○	5,20	1,60	0,80	1,13	1,60	1,96	2,53	3,58	700	1,380
	302.528	-	○	-	5,00	2,00	1,00	1,41	2,00	2,45	3,16	4,47	700	1,380
	302.568	-	○	-	5,00	2,40	1,25	1,77	2,50	3,06	3,95	5,59	780	1,520
	302.608	○	○	○	5,00	3,20	1,57	2,23	3,15	3,86	4,98	7,04	780	1,520
	302.648	-	○	-	7,50	3,00	2,00	2,83	4,00	4,90	6,32	8,94	950	1,850
	302.688	-	○	-	7,50	3,40	2,50	3,54	5,00	6,12	7,91	11,18	950	1,850
	302.728	-	○	-	7,50	4,10	3,15	4,45	6,30	7,72	9,96	14,09	950	1,850
	302.768	-	○	-	9,00	4,30	4,00	5,66	8,00	9,80	12,65	17,89	950	1,850
	302.848	-	○	-	11,00	5,20	6,25	8,84	12,50	15,31	19,76	27,95	950	1,850
	302.888	-	○	○	11,00	6,40	8,00	11,31	16,00	19,60	25,30	35,78	950	1,850
	302.968	○	○	-	11,00	8,60	12,50	17,68	25,00	30,62	39,53	55,90	950	1,850

B = bore diameter · E = narrowest free cross section

Example for ordering	Type	+	Material no.	=	Ordering no.
	302.364	+	51	=	302.364.51

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

Bayonet quick-release system

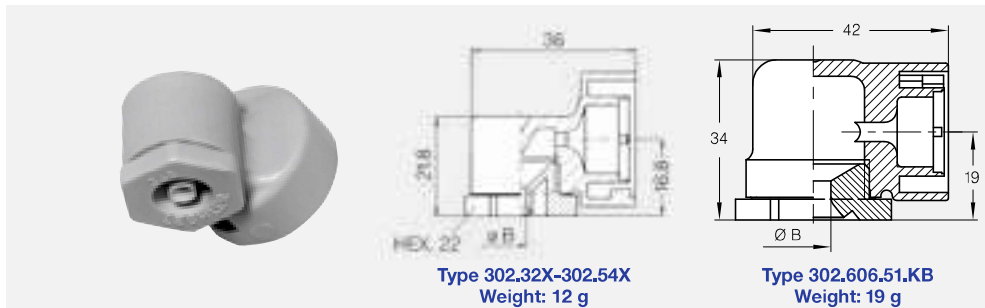
Series 302





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.



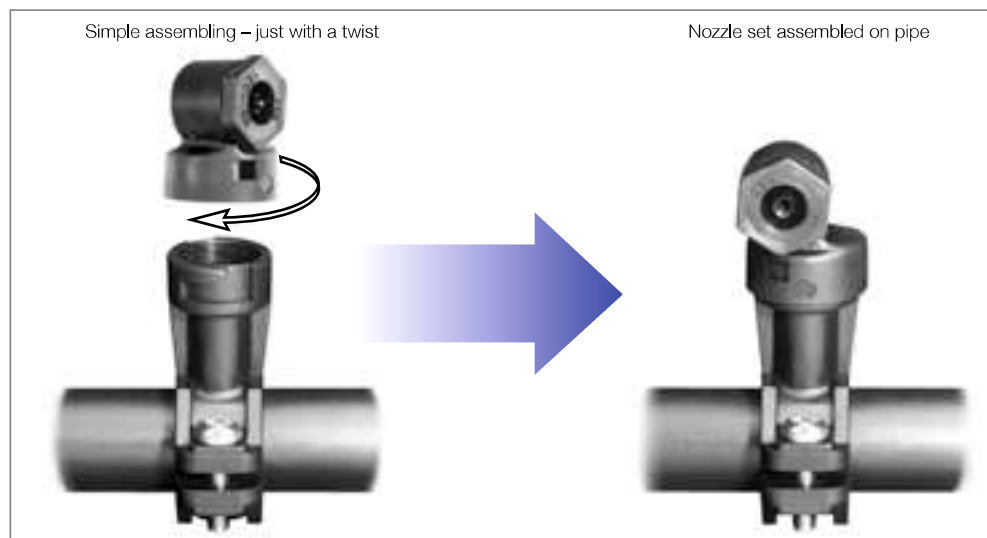
Hollow cone nozzles

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]							H = 250 mm	H = 500 mm
		51	56				0.5	1.0	2.0	US [gal/min] at 40 psi	3.0	4.0	10.0		
45°	302.503	○	-	KB	2.05	2.05	0.90	1.27	1.80	0.56	2.20	2.85	4.02	220	560
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	1,380
	302.408	○	○	KB	2.00	2.00	0.50	0.71	1.00	0.31	1.22	1.58	2.24	700	1,380
	302.468	○	-	KB	2.40	2.40	0.70	0.99	1.40	0.43	1.71	2.21	3.13	700	1,380
	302.488	○	-	KB	2.75	2.75	0.80	1.13	1.60	0.50	1.96	2.53	3.58	700	1,380

B = bore diameter · E = narrowest free cross section

Example for ordering: Type 302.503 + Material no. 51 + Code KB = Ordering no. 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«.



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

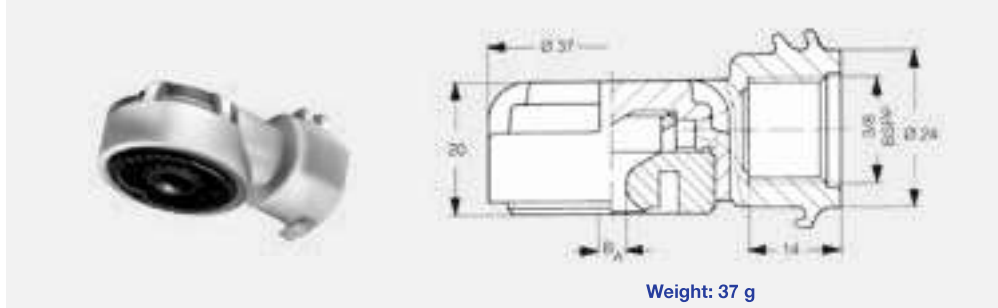




Tangential-flow hollow cone nozzles Series 350

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.

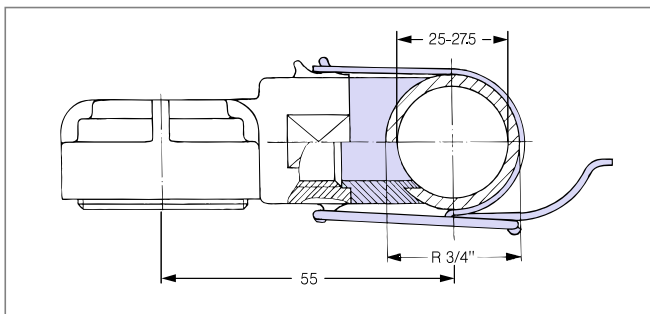


Spray angle 	Ordering no.		B Ø [mm]	E Ø [mm]	V [l/min]							Spray diameter D at p = 2 bar 		
	Type	Mat. no.			p [bar]		p _{max} : 20 bar					H = 250 mm	H = 500 mm	
			56			0.5	1.0	2.0	3.0	5.0	7.0	10.0		
130°	350.368	○		1,55	0,70	0,32	0,45	0,63	0,77	1,00	1,18	1,41	1,120	2,000
	350.608	○		5,00	1,40	1,58	2,23	3,15	3,86	4,98	5,89	7,04	1,140	2,100

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





Tangential-flow hollow cone nozzles

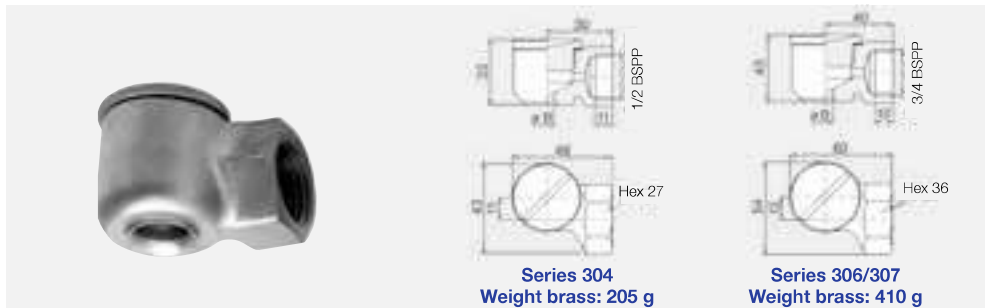
Series 304/306/307





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

Applications:

Fire fighting, protection of storage tanks, foam control.



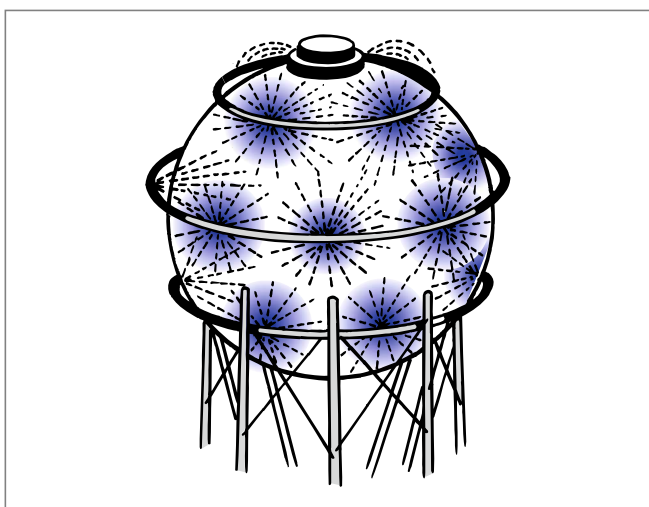
Hollow cone nozzles

Spray angle 	Ordering no.		G	B Ø [mm]	E Ø [mm]	ṽ [l/min]								Spray diameter D at p = 2 bar 		
	Type	Mat. no.				p [bar]								H = 250 mm	H = 500 mm	
		30				1Y	0.5	1.0	2.0	3.0	5.0	7.0	10.0			
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	1,400	1,800	
	304.898	○	○	1/2	12,00	7,00	8,50	12,02	17,00	20,82	26,88	31,80	38,01	1,400	1,800	
	306.978	○	-	3/4	19,00	7,30	13,25	18,74	26,50	32,46	41,90	49,58	59,25	1,450	2,400	
	307.018	○	○	3/4	19,00	8,60	16,75	23,69	33,50	41,03	52,97	62,67	74,91	1,450	2,400	

B = bore diameter · E = narrowest free cross section

Example for ordering: Type 304.706 + Material no. 30 = Ordering no. 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.



Eccentric hollow cone nozzles Series 373 "Ramp Bottom"



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

Applications:

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

»Ramp Bottom« design offering a longer service life, due to the patented »sloping« shape of the swirl chamber.

Sectional view of a series 373 »Ramp Bottom« nozzle

Dimensions [mm]

BSPP	L [mm]	D [mm]	H [mm]	E [mm]	Hex	Weight 316 SS [g]
1	67	45	52	6.3	41	285
1 1/4	77	51	65	7.9	48	570
1 1/2	97	65	81	7.9	58	900

Series 373 "Ramp Bottom"

Spray angle 	Ordering no.					B Ø [mm]	V̇ [l/min]						Spray diameter D at p=2 bar 	
	Type	Mat. no. 17	Code				p [bar]						H = 500 mm	H = 1000 mm
			316 SS	1 BSPP	1 1/4 BSPP		1 1/2 BSPP	0.3	0.5	1.0	2.0	5.0		
70°	373.115	○	AN	-	-	11,40	24,40	31,50	44,50	63,00	99,60	141,00	650	1,300
80°	373.175	○	AN	-	-	12,90	31,00	40,00	56,60	80,00	126,00	179,00	800	1,550
	373.235	○	-	AQ	-	16,20	45,70	59,00	83,40	118,00	187,00	264,00	700	1,350
	373.285	○	-	AQ	-	20,50	62,00	80,00	113,00	160,00	253,00	358,00	800	1,550
	373.325	○	-	-	AS	22,20	77,50	100,00	141,00	200,00	316,00	447,00	800	1,550
	373.365	○	-	-	AS	23,60	67,90	114,00	161,00	227,00	359,00	508,00	700	1,400

B = bore diameter · E = narrowest free cross section

Example **Type** + **Material no.** + **Code** = **Ordering no.**
for ordering: 373.115 + 17 + AN = 373.115,17,AN