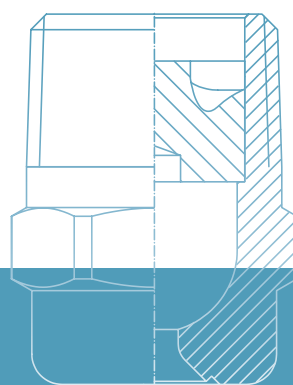


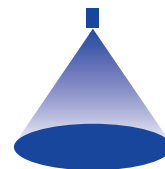


➤➤ TRYSKY S ROZSTŘIKEM  
PLNÉHO KUŽELE



# TRYSKY S ROZSTŘÍKEM PLNÉHO KUŽELE

## PŘEHLED TYPŮ



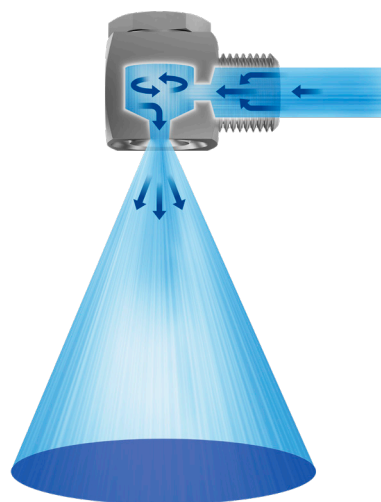
Trysky Lechler s rozstříkem plného kužele se vyznačují rovnoměrným rozložením kapaliny po celé kruhové dopadové ploše a používají se mimo jiné pro povrchové nástřiky, v čistících a mycích procesech a také v chemickém procesním inženýrství. Trysky s plným kuželem se dodávají v různých velikostech a jsou v provedení jako axiální plný kužel nebo tangenciální plný kužel. Pro speciální aplikace jsou k dispozici jedinečné typy např. svazkové trysky nebo trysky s odrážecím diskem.

### Axiální trysky s rozstříkem plného kužele



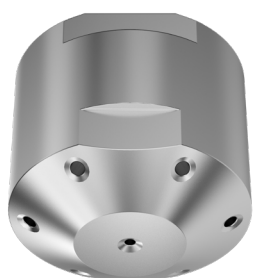
- Axiální tok
- Uniform liquid distribution
- Full surface impact
- Extensive flow rate range
- Extensive range of spray angles
- Standard materials:  
Stainless steel 316Ti/316L, Brass, PVDF (special material available on request)

### Tangenciální trysky s rozstříkem plného kužele



- Tangenciální tok
- Uniform liquid distribution
- Full surface impact
- Maximum free passage making less susceptible to clogging
- Stable spray angle
- Standard materials:  
Stainless steel 316L, Brass, PVDF (special material available on request)

### Cluster head nozzles



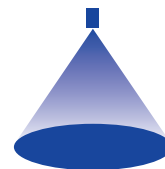
- Axiální tok
- Multi-nozzle spray head
- Full surface impact
- Atomized spray – very fine droplets
- Small droplet sizes
- Enlarged droplet surface area
- Standard materials:  
Stainless steel 316Ti/316L, Brass  
(special material available on request)









### Deflector-plate nozzles



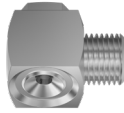





- Axiální tok
- Large impact area
- Large free cross sections
- Standard materials:  
Stainless steel 316Ti/316L, Brass  
(special material available on request)

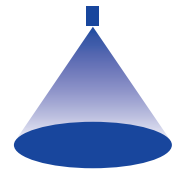
# TRYSKY S ROZSTŘÍKEM PLNÉHO KUŽELE OVERVIEW OF SERIES



		Axiální trysky s rozstříkem plného kužele			
					
Series		490/491	460/461	405	403
Information on page		84	87	89	90
 <b>Flow rate at p = 2 bar</b>	<b>Very low</b> < 5 l/min	•	•		
	<b>Low</b> 5 l/min–25 l/min	•	•		
	<b>Medium</b> 25 l/min–80 l/min	•	•		
	<b>High</b> 80 l/min–400 l/min			•	
	<b>Very high</b> > 400 l/min				•
 <b>Spray angle</b>	<b>Small</b> 45°	•			
	<b>Medium</b> 60°–90°	•	•	•	•
	<b>Large</b> ≥ 120°	•	•	•	•
 <b>Nozzle material</b>	<b>Stainless steel</b>	•		•	•
	<b>Brass</b>	•		•	
	<b>Plastic</b>		•		
 <b>Nozzle connection</b>		1/8 BSPT 1/4 BSPT 3/8 BSPT 1/2 BSPT 3/4 BSPP 1 BSPP	1/8 BSPT 1/4 BSPT 3/8 BSPT 1/2 BSPT 3/4 BSPT 3/4 BSPP 1 BSPP	1 1/4 BSPP 1 1/2 BSPP 2 BSPP	2 1/2 BSPP 3 BSPP 3 1/2 BSPP 4 BSPP

		Tangenciální trysky s rozstříkem plného kužele		Cluster head nozzles	Deflector-plate nozzles
					
<b>419</b>	<b>468</b>	<b>422/423</b>	<b>422 with bayonet quick-release system</b>	<b>502/503</b>	<b>524/525</b>
91	92	93/95	97	98	99
	•	•	•	•	
	•	•		•	•
		•		•	•
• (at p = 1 bar)		•			•
• (at p = 1 bar)					
•	•	•	•	•	
•	•	•	•	•	•
•	•	•		•	•
	•	•		•	•
	•	•	•		
2 BSPP 2 1/2 BSPP 3 BSPP	Assembly with retaining nut 3/8 BSPP	1/4 BSPT 3/8 BSPT 1/2 BSPT 3/4 BSPT 1 BSPT	Assembly with bayonet quick-release system	1/2 BSPP 3/4 BSPP	1/2 BSPP

# ➤ Axiální trysky s rozstříkem plného kužele Series 490/491



### Features:

- Extremely uniform liquid distribution
- Very stable spray angle
- Non clogging due to large free cross sections

### Applications:

- Cleaning and washing processes
- Surface spraying
- Chemical process engineering
- Foam control

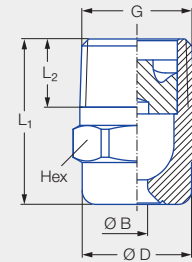


Figure 1

Series 490/491

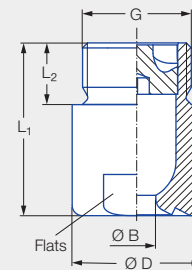


Figure 2

Code	Figure	G	Dimensions [mm]				Weight [g] (brass)
			L <sub>1</sub>	L <sub>2</sub>	Ø D	Hex/Flats	
<b>CA</b>	1	1/8 BSPT	18.0	6.5	10.0	11	13.0
<b>CC</b>	1	1/4 BSPT	22.0	10.0	13.0	14	16.0
<b>CE</b>	1	3/8 BSPT	24.5	10.0	16.0	17	30.0
CE	1	3/8 BSPT	30.0	10.0	16.0	17	50.0
<b>CG</b>	1	1/2 BSPT	32.5	13.0	21.0	22	60.0
CG	1	1/2 BSPT	43.5	13.0	21.0	22	85.0
<b>AK</b>	2	3/4 BSPP	42.0	15.0	32.0	27	190.0
<b>AM</b>	2	1 BSPP	56.0	17.0	40.0	36	350.0

Spray angle	Ordering no.								Bore diameter B [mm]	Narrowest free cross sections 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]		
		1Y	30	1/8 BSPT	1/4 BSPT	3/8 BSPT	1/2 BSPT	3/4 BSPP			1 BSPP	0.5	1.0	p [bar]						
		Stainless steel 316L	Brass											2.0	3.0	5.0	7.0	10.0		
45°	<b>490.403</b>	●	●	<b>CA</b>						1.25	1.25	0.57	0.76	<b>1.00</b>	1.18	1.44	1.65	1.90	200	400
	<b>490.523</b>	●	●	<b>CA</b>						1.70	1.70	1.15	1.52	<b>2.00</b>	2.35	2.89	3.30	3.81	200	410
	<b>490.603</b>	●	●		<b>CC</b>	<b>CE<sup>1</sup></b>				2.00	2.00	1.81	2.39	<b>3.15</b>	3.70	4.54	5.20	6.00	200	410
	<b>490.643</b>	●	●		<b>CC</b>	<b>CE<sup>1</sup></b>				2.45	2.45	2.30	3.03	<b>4.00</b>	4.70	5.77	6.60	7.61	200	410
	<b>490.683</b>		●			<b>CE</b>				2.55	2.55	2.87	3.79	<b>5.00</b>	5.88	7.21	8.25	9.52	210	410
	<b>490.703</b>		●			<b>CE</b>				2.65	2.65	3.22	4.24	<b>5.60</b>	6.59	8.08	9.24	10.66	210	420
	<b>490.723</b>	●	●			<b>CE</b>				2.85	2.85	3.62	4.77	<b>6.30</b>	7.41	9.09	10.40	11.99	210	420
	<b>490.783</b>		●				<b>CG</b>			3.45	3.45	5.17	6.82	<b>9.00</b>	10.58	12.98	14.85	17.13	210	430
	<b>490.843</b>		●				<b>CG</b>			3.80	3.80	7.18	9.47	<b>12.50</b>	14.70	18.03	20.63	23.80	220	430

<sup>1</sup> Only available in material 30.

Spray angle	Ordering no.								Bore diameter B [mm]	Narrowest free cross sections 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]		
		1Y	30	1/8 BSPT	1/4 BSPT	3/8 BSPT	1/2 BSPT	3/4 BSPT			1 BSPT	0.5	1.0	2.0	3.0	5.0			7.0	10.0
		Stainless steel 316L	Brass																	
60°	490.404	●	●	CA						1.15	1.15	0.57	0.76	1.00	1.18	1.44	1.65	1.90	260	520
	490.444	●		CA						1.25	1.25	0.72	0.95	1.25	1.47	1.80	2.06	2.38	260	520
	490.484	●	●	CA						1.45	1.45	0.92	1.21	1.60	1.88	2.31	2.64	3.05	260	520
	490.524	●	●	CA						1.60	1.60	1.15	1.52	2.00	2.35	2.89	3.30	3.81	270	530
	490.564	●	●	CA						1.80	1.80	1.44	1.89	2.50	2.94	3.61	4.13	4.76	270	530
	490.604	●	●	CA	CC	CE				2.05	2.05	1.81	2.39	3.15	3.70	4.54	5.20	6.00	270	540
	490.644	●	●		CC	CE				2.30	2.30	2.30	3.03	4.00	4.70	5.77	6.60	7.61	270	540
	490.684	●	●		CC	CE				2.60	2.60	2.87	3.79	5.00	5.88	7.21	8.25	9.52	280	550
	490.724	●	●		CC	CE				2.95	2.80	3.62	4.77	6.30	7.41	9.09	10.40	11.99	280	560
	490.764	●	●			CE				3.25	3.25	4.59	6.06	8.00	9.41	11.54	13.20	15.23	290	560
	490.804	●	●			CE				3.70	3.70	5.74	7.58	10.00	11.76	14.43	16.51	19.04	290	570
	490.844	●	●				CG			4.05	4.05	7.18	9.47	12.50	14.70	18.03	20.63	23.80	290	570
	490.884	●	●				CG			4.65	4.65	9.19	12.13	16.00	18.82	23.08	26.41	30.46	300	580
	490.924	●	●					AK		5.20	5.20	11.49	15.16	20.00	23.52	28.85	33.01	38.07	300	590
	490.964	●	●					AK		5.80	5.80	14.36	18.95	25.00	29.40	36.07	41.26	47.59	300	590
	491.044	●	●						AM	7.25	7.25	22.97	30.31	40.00	47.04	57.71	66.02	76.15	300	600
491.084	●	●						AM	8.15	8.15	28.72	37.89	50.00	58.80	72.13	82.53	95.18	300	600	
90°	490.406	●	●	CA						1.20	1.20	0.57	0.76	1.00	1.18	1.44	1.65	1.90	490	880
	490.446		●	CA						1.30	1.30	0.72	0.95	1.25	1.47	1.80	2.06	2.38	490	900
	490.486	●	●	CA						1.45	1.45	0.92	1.21	1.60	1.88	2.31	2.64	3.05	500	900
	490.526	●	●	CA						1.70	1.55	1.15	1.52	2.00	2.35	2.89	3.30	3.81	500	910
	490.566	●	●	CA						1.90	1.90	1.44	1.89	2.50	2.94	3.61	4.13	4.76	510	920
	490.606	●	●	CA		CE				2.10	2.05	1.81	2.39	3.15	3.70	4.54	5.20	6.00	510	930
	490.646	●	●		CC	CE				2.40	2.40	2.30	3.03	4.00	4.70	5.77	6.60	7.61	520	950
	490.686	●	●		CC	CE				2.70	2.70	2.87	3.79	5.00	5.88	7.21	8.25	9.52	520	960
	490.726	●	●		CC	CE				3.20	2.80	3.62	4.77	6.30	7.41	9.09	10.40	11.99	530	970
	490.746	●	●			CE				3.15	3.15	4.08	5.38	7.10	8.35	10.24	11.72	13.52	530	980
	490.766	●	●			CE				3.40	3.40	4.59	6.06	8.00	9.41	11.54	13.20	15.23	540	980
	490.806	●	●			CE				3.90	3.90	5.74	7.58	10.00	11.76	14.43	16.51	19.04	550	990
	490.846	●	●			CE				4.65	4.00	7.18	9.47	12.50	14.70	18.03	20.63	23.80	550	1,000
	490.886	●	●				CG			5.45	4.50	9.19	12.13	16.00	18.82	23.08	26.41	30.46	550	1,010
	490.926	●	●				CG			5.90	4.50	11.49	15.16	20.00	23.52	28.85	33.01	38.07	560	1,010
	490.966	●	●				CG	AK		6.55	4.85	14.36	18.95	25.00	29.40	36.07	41.26	47.59	560	1,020
	491.006	●	●					AK		7.55	5.50	18.09	23.87	31.50	37.05	45.45	51.99	59.97	560	1,030
	491.046	●	●					AK		8.60	6.60	22.97	30.31	40.00	47.04	57.71	66.02	76.15	560	1,040
	491.086	●	●						AM	9.45	7.25	28.72	37.89	50.00	58.80	72.13	82.53	95.18	560	1,040
	491.126	●	●						AM	10.40	8.00	36.18	47.75	63.00	74.09	90.89	103.98	119.93	560	1,040
491.146	●							AM	11.00	7.50	40.78	53.81	71.00	83.50	102.43	117.19	135.16	560	1,040	
120°	490.368	●	●	CA						0.85	0.65	0.36	0.48	0.63	0.74	0.91	1.04	1.20	700	1,240
	490.408	●	●	CA						1.20	1.20	0.57	0.76	1.00	1.18	1.44	1.65	1.90	720	1,260
	490.448	●	●	CA						1.30	1.30	0.72	0.95	1.25	1.47	1.80	2.06	2.38	740	1,280
	490.488	●	●	CA						1.45	1.45	0.92	1.21	1.60	1.88	2.31	2.64	3.05	760	1,300
	490.528	●	●	CA						1.70	1.70	1.15	1.52	2.00	2.35	2.89	3.30	3.81	780	1,320
	490.568	●	●	CA						1.90	1.90	1.44	1.89	2.50	2.94	3.61	4.13	4.76	800	1,340







Spray angle	Ordering no.									Bore diameter B [mm]	Narrowest free cross sections 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]
		1Y	30	1/8 BSPT	1/4 BSPT	3/8 BSPT	1/2 BSPT	3/4 BSPP	1 BSPP			0.5	1.0	2.0	3.0	5.0	7.0	10.0		
		Stainless steel 316L	Brass																	
120°	490.608	●	●	CA						2.10	2.05	1.81	2.39	<b>3.15</b>	3.70	4.54	5.20	6.00	820	1,370
	490.648	●	●		CC	CE				2.40	2.40	2.30	3.03	<b>4.00</b>	4.70	5.77	6.60	7.61	840	1,400
	490.688	●	●		CC	CE				2.75	2.75	2.87	3.79	<b>5.00</b>	5.88	7.21	8.25	9.52	850	1,430
	490.728	●	●		CC	CE				3.20	2.80	3.62	4.77	<b>6.30</b>	7.41	9.09	10.40	11.99	860	1,470
	490.748	●	●			CE				3.20	3.20	4.08	5.38	<b>7.10</b>	8.35	10.24	11.72	13.52	870	1,500
	490.768	●	●			CE				3.45	3.45	4.59	6.06	<b>8.00</b>	9.41	11.54	13.20	15.23	880	1,530
	490.808	●	●			CE				3.90	3.90	5.74	7.58	<b>10.00</b>	11.76	14.43	16.51	19.04	900	1,580
	490.848	●	●			CE				4.70	4.00	7.18	9.47	<b>12.50</b>	14.70	18.03	20.63	23.80	910	1,630
	490.888	●	●				CG			5.10	4.50	9.19	12.13	<b>16.00</b>	18.82	23.08	26.41	30.46	920	1,680
	490.928	●	●				CG	AK		5.80	4.75	11.49	15.16	<b>20.00</b>	23.52	28.85	33.01	38.07	930	1,700
	490.968	●	●				CG	AK		6.65	4.85	14.36	18.95	<b>25.00</b>	29.40	36.07	41.26	47.59	930	1,710
	491.048	●	●					AK		9.10	5.85	22.97	30.31	<b>40.00</b>	47.04	57.71	66.02	76.15	930	1,730
	491.128	●	●						AM	10.80	7.75	36.18	47.75	<b>63.00</b>	74.09	90.89	103.98	119.93	930	1,740
	491.148	●							AM	11.40	7.65	40.78	53.81	<b>71.00</b>	83.50	102.43	117.19	135.16	930	1,750

Conversion formula for this series:  $\dot{V}_2 = \dot{V}_1 \cdot \left(\frac{p_2}{p_1}\right)^{0.4}$   
 (≤ 10 bar)

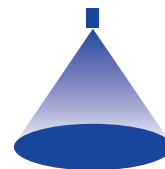
Ordering Type + Material no. + Code = Ordering no.  
 example: 490.608 + 1Y + CA = 490.608.1Y.CA



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

# ➤ Axiální trysky s rozstříkem plného kužele

## Series 460/461



### Features:

- Extremely uniform liquid distribution

### Applications:

- Cleaning and washing processes
- Cooling
- Surface spraying
- Chemical process engineering



Series 460/461

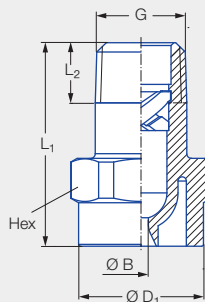


Figure 1

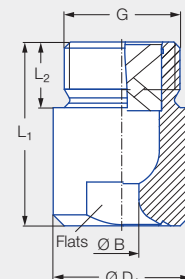


Figure 2

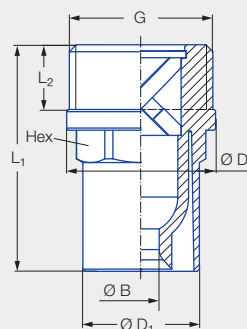




Figure 3

Code	Figure	G	Dimensions [mm]					Weight [g]
			L <sub>1</sub>	L <sub>2</sub>	Ø D <sub>1</sub>	Ø D <sub>2</sub>	Hex/Flats	
CA	1	1/8 BSPT	22.0	6.5	13.0	–	14	2.7
CC	1	1/4 BSPT	22.0	9.7	13.0	–	14	3.3
CE	1	3/8 BSPT	30.0	10.0	17.0	–	17	6.4
CG	1	1/2 BSPT	43.5	13.2	22.0	–	22	14.5
CK	2	3/4 BSPT	42.0	15.0	31.5	–	27	19.9
AK	2	3/4 BSPP	42.0	15.0	31.5	–	27	24.3
AM	3	1 BSPP	52.5	15.0	27.0	34.5	27	34.4

Spray angle	Ordering no.								Bore diameter B [mm]	Narrowest free cross sections Ø [mm]	V̇ water [l/min]						Spray diameter D [mm] (at p = 2 bar)			
	Type	Mat. no.	Code								p [bar]									
			5E	1/8 BSPT	1/4 BSPT	3/8 BSPT	1/2 BSPT	3/4 BSPT			3/4 BSPP	1 BSPP								
													PVDF	0.5	1.0	2.0	3.0	5.0	7.0	10.0
60°	460.524	●	CA							1.60	1.60	1.15	1.52	2.00	2.35	2.89	3.30	3.81	210	380
	460.644	●	CC							2.40	1.90	2.30	3.03	4.00	4.70	5.77	6.60	7.61	240	420
	460.724	●	CC							2.80	2.10	3.15	4.45	6.30	7.72	8.91	9.96	14.09	260	450
	460.964	●						AK		5.80	4.90	14.36	18.95	25.00	29.40	36.07	41.26	47.59	310	560





Spray angle	Ordering no.								Bore diameter B [mm]	Narrowest free cross sections Ø [mm]	V̇ water [l/min]							Spray diameter D [mm] (at p = 2 bar)			
	Type	Mat. no.	Code								p [bar]										
		5E	1/8 BSPT	1/4 BSPT	3/8 BSPT	1/2 BSPT	3/4 BSPT	3/4 BSPP			1 BSPP	0.5	1.0	2.0	3.0	5.0	7.0		10.0	H = 250 [mm]	H = 500 [mm]
		PVDF																			
90°	460.326	●	CA							0.80	0.55	0.23	0.30	<b>0.40</b>	0.47	0.58	0.66	0.76	430	750	
	460.406	●	CA							1.20	0.85	0.57	0.76	<b>1.00</b>	1.18	1.44	1.65	1.90	440	780	
	460.486	●	CA							1.45	1.20	0.92	1.21	<b>1.60</b>	1.88	2.31	2.64	3.05	450	800	
	460.526	●	CA							1.65	1.30	1.15	1.52	<b>2.00</b>	2.35	2.89	3.30	3.81	450	820	
	460.606	●	CA		CE					2.05	1.45	1.81	2.39	<b>3.15</b>	3.70	4.54	5.20	6.00	470	850	
	460.646	●		CC						2.30	1.80	2.30	3.03	<b>4.00</b>	4.70	5.77	6.60	7.61	480	870	
	460.726	●			CE					2.95	2.00	3.62	4.77	<b>6.30</b>	7.41	9.09	10.40	11.99	500	900	
	460.746	●			CE					3.30	1.90	4.08	5.38	<b>7.10</b>	8.35	10.24	11.72	13.52	510	910	
	460.766	●			CE					3.30	2.40	4.59	6.06	<b>8.00</b>	9.41	11.54	13.20	15.23	510	910	
	460.806	●			CE					3.70	2.70	5.74	7.58	<b>10.00</b>	11.76	14.43	16.51	19.04	520	920	
	460.846	●			CE					4.05	3.20	7.18	9.47	<b>12.50</b>	14.70	18.03	20.63	23.80	520	930	
	460.886	●			CE	CG				4.70	3.10	9.19	12.13	<b>16.00</b>	18.82	23.08	26.41	30.46	520	930	
	460.926	●				CG				5.10	2.80	11.49	15.16	<b>20.00</b>	23.52	28.85	33.01	38.07	520	940	
	460.966	●				CG				5.80	3.80	14.36	18.95	<b>25.00</b>	29.40	36.07	41.26	47.59	520	940	
	461.006	●				CG				6.40	3.80	18.09	23.87	<b>31.50</b>	37.05	45.45	51.99	59.97	520	940	
461.046	●					CK			7.20	5.30	22.97	30.31	<b>40.00</b>	47.04	57.71	66.02	76.15	520	950		
461.086	●						AM		8.40	5.00	25.00	35.36	<b>50.00</b>	61.24	70.71	79.06	111.80	530	950		
120°	460.368	●	CA							0.95	0.65	0.32	0.45	<b>0.63</b>	0.77	0.89	1.00	1.41	650	1,030	
	460.408	●	CA							1.20	0.85	0.57	0.76	<b>1.00</b>	1.18	1.44	1.65	1.90	680	1,100	
	460.488	●	CA							1.50	1.00	0.92	1.21	<b>1.60</b>	1.88	2.31	2.64	3.05	700	1,160	
	460.528	●	CA							1.65	1.20	1.15	1.52	<b>2.00</b>	2.35	2.89	3.30	3.81	710	1,200	
	460.608	●	CA							2.10	1.40	1.81	2.39	<b>3.15</b>	3.70	4.54	5.20	6.00	730	1,270	
	460.648	●		CC						2.45	1.60	2.30	3.03	<b>4.00</b>	4.70	5.77	6.60	7.61	750	1,310	
	460.728	●			CE					3.10	1.90	3.62	4.77	<b>6.30</b>	7.41	9.09	10.40	11.99	780	1,380	
	460.748	●			CE					3.30	1.90	4.08	5.38	<b>7.10</b>	8.35	10.24	11.72	13.52	790	1,400	
	460.768	●			CE					3.50	1.90	4.59	6.06	<b>8.00</b>	9.41	11.54	13.20	15.23	790	1,410	
	460.808	●			CE					3.80	2.40	5.74	7.58	<b>10.00</b>	11.76	14.43	16.51	19.04	810	1,430	
	460.848	●			CE					4.20	2.70	7.18	9.47	<b>12.50</b>	14.70	18.03	20.63	23.80	820	1,450	
	460.888	●				CG				4.60	3.10	9.19	12.13	<b>16.00</b>	18.82	23.08	26.41	30.46	830	1,470	
	460.968	●				CG				5.90	4.10	14.36	18.95	<b>25.00</b>	29.40	36.07	41.26	47.59	850	1,500	
	461.048	● <sup>1</sup>					CK			7.60	4.90	22.97	30.31	<b>40.00</b>	47.04	57.71	66.02	76.15	870	1,530	

<sup>1</sup> Material PP (mat. no. 53).

Conversion formula for this series:  $\dot{V}_2 = \dot{V}_1 \cdot \left(\frac{p_2}{p_1}\right)^{0.4}$   
(≤ 10 bar)

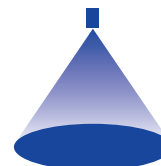
Ordering Type + Material no. + Code = Ordering no.  
example: 460.326 + 5E + CA = 460.326.5E.CA



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

# ➤ Axiální trysky s rozstříkem plného kužele

## Series 405

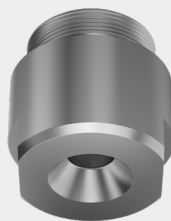


### Features:

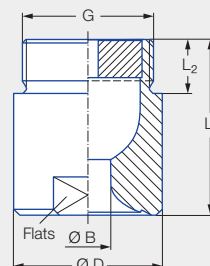
- Extremely uniform liquid distribution

### Applications:

- Surface spraying
- Chemical process engineering
- Cleaning and washing processes
- Water treatment



Series 405



Code	G	Dimensions [mm]				Weight [kg] (brass)
		L <sub>1</sub>	L <sub>2</sub>	Ø D	Flats	
<b>AP</b>	1 1/4 BSPP	50.0	19.0	49.0	41	0.5
<b>AR</b>	1 1/2 BSPP	60.0	19.0	59.0	50	0.9
<b>AV</b>	2 BSPP	78.0	24.0	68.0	60	1.6

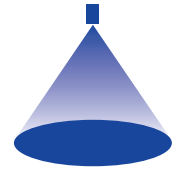
Spray angle	Ordering no.						Bore diameter B [mm]	Narrowest free cross sections Ø [mm]	V̇ water [l/min]						Spray diameter D [mm] (at p = 2 bar)	
	Type	Mat. no.		Code					p [bar]						H = 500 [mm]	H = 1,000 [mm]
		1Y	30	1 1/4 BSPP	1 1/2 BSPP	2 BSPP			0.3	0.5	1.0	2.0	3.0	5.0		
		Stainless steel 316L	Brass													
60°	<b>405.204</b>	●	●	<b>AP</b>			11.2	5.8	47	57	76	<b>100</b>	118	144	600	1,140
	<b>405.284</b>	●	●		<b>AR</b>		14.3	7.0	75	92	121	<b>160</b>	188	231	630	1,210
	<b>405.324</b>	●	●			<b>AV</b>	16.4	7.5	94	115	152	<b>200</b>	235	289	650	1,250
	<b>405.364</b>	●	●			<b>AV</b>	18.4	8.5	117	144	189	<b>250</b>	294	361	650	1,250
	<b>405.404</b>	●				<b>AV</b>	20.0	7.0	147	181	239	<b>315</b>	370	454	650	1,250
90°	<b>405.206</b>	●	●	<b>AP</b>			12.0	5.0	47	57	76	<b>100</b>	118	144	1,120	2,100
	<b>405.286</b>	●	●		<b>AR</b>		15.2	6.2	75	92	121	<b>160</b>	188	231	1,120	2,100
	<b>405.326</b>	●				<b>AV</b>	17.2	7.7	94	115	152	<b>200</b>	235	289	1,120	2,100
	<b>405.366</b>	●				<b>AV</b>	19.5	8.7	117	144	189	<b>250</b>	294	361	1,120	2,100
	<b>405.406</b>	●	●			<b>AV</b>	22.0	9.5	147	181	239	<b>315</b>	370	454	1,120	2,100
120°	<b>405.208</b>	●	●	<b>AP</b>			12.7	5.0	47	57	76	<b>100</b>	118	144	1,850	3,050
	<b>405.288</b>	●	●		<b>AR</b>		16.0	6.6	75	92	121	<b>160</b>	188	231	1,900	3,150
	<b>405.328</b>	●				<b>AV</b>	17.8	7.9	94	115	152	<b>200</b>	235	289	1,900	3,200
	<b>405.368</b>	●	●			<b>AV</b>	20.1	8.8	117	144	189	<b>250</b>	294	361	1,900	3,200
	<b>405.408</b>	●	●			<b>AV</b>	22.4	9.1	147	181	239	<b>315</b>	370	454	1,900	3,200

Conversion formula for this series:  $\dot{V}_2 = \dot{V}_1 \cdot \left(\frac{p_2}{p_1}\right)^{0.4}$   
 (≤ 10 bar)

Ordering Type + Material no. + Code = Ordering no.  
 example: 405.204 + 1Y + AP = 405.204.1Y.AP

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

# ➤ Axiální trysky s rozstříkem plného kužele Series 403

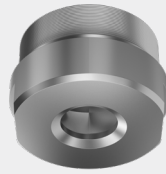


## Features:

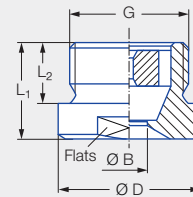
- Extremely uniform liquid distribution

## Applications:

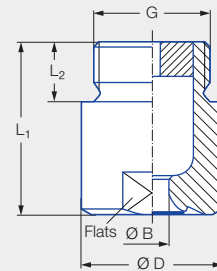
- Surface spraying
- Spraying over packings
- Chemical process engineering
- Cleaning and washing processes
- Cooling



Series 403



90° version




120° version

## 90° version

Type	G	Dimensions [mm]				Weight [kg]
		L <sub>1</sub>	L <sub>2</sub>	Ø D	Flats	
<b>403.446/403.486</b>	2 1/2 BSPP	52.0	27.0	83.0	75	1.3
<b>403.526</b>	3 BSPP	60.0	30.0	98.0	85	2.0
<b>403.606</b>	3 1/2 BSPP	70.0	32.0	118.0	105	3.6


## 120° version

Type	G	Dimensions [mm]				Weight [kg]
		L <sub>1</sub>	L <sub>2</sub>	Ø D	Flats	
<b>403.448/403.488</b>	2 1/2 BSPP	124.0	27.0	83.0	75	3.2
<b>403.528</b>	3 BSPP	153.0	30.0	98.0	85	5.4
<b>403.608</b>	3 1/2 BSPP	156.0	32.0	118.0	105	8.3
<b>403.628</b>	4 BSPP	165.0	36.0	128.0	110	9.6

Spray angle	Ordering no.		Bore diameter B [mm]	Narrowest free cross sections Ø [mm]	V̇ water [l/min]							Spray diameter D [mm] (at p = 2 bar)	
	Type	Mat. no.			p [bar]							 H = 500 [mm]    H = 1,000 [mm]	
		1Y			0.3	0.5	1.0	2.0	3.0	5.0	7.0		
90°	<b>403.446</b>	●	25.0	12.0	187	230	303	<b>400</b>	470	577	660	1,000	1,780
	<b>403.486</b>	●	29.5	12.0	234	287	379	<b>500</b>	588	721	825	1,000	1,780
	<b>403.526</b>	●	32.0	13.8	295	362	477	<b>630</b>	741	909	1,040	1,000	1,780
	<b>403.606</b>	●	40.0	15.0	468	574	758	<b>1,000</b>	1,176	1,443	1,651	1,000	1,780
120°	<b>403.448</b>	●	25.5	10.0	187	230	303	<b>400</b>	470	577	660	1,700	2,930
	<b>403.488</b>	●	29.5	11.0	234	287	379	<b>500</b>	588	721	825	1,700	2,930
	<b>403.528</b>	●	32.0	15.0	295	362	477	<b>630</b>	741	909	1,040	1,700	2,930
	<b>403.608</b>	●	42.0	12.0	468	574	758	<b>1,000</b>	1,176	1,443	1,651	1,700	2,930
	<b>403.628</b>	●	45.0	15.0	585	718	947	<b>1,250</b>	1,470	1,803	2,063	1,700	2,930

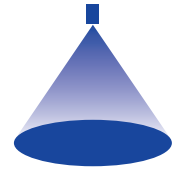
Conversion formula for this series:  $\dot{V}_2 = \dot{V}_1 \cdot \left(\frac{p_2}{p_1}\right)^{0.4}$   
(≤ 10 bar)

Ordering Type + Material no. = Ordering no.  
example: 403.446 + 1Y = 403.446.1Y

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

# ➤ Axiální trysky s rozstříkem plného kužele

## Series 419 FreeFlow



### Features:

- Non clogging due to very large free cross sections
- Very stable spray angle
- Uniform liquid distribution

### Applications:

- Cleaning and washing processes
- Dust control
- Absorption
- Distillation

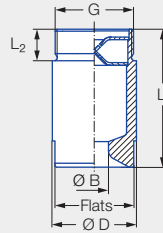


Figure 1

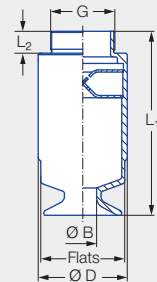



Figure 2

Series 419


Type	Code	Figure	G	Dimensions [mm]				Weight [kg]
				L <sub>1</sub>	L <sub>2</sub>	Ø D	Flats	
419.3xx	AV	1	2 BSPP	105.0	24.0	64.0	60	1.2
419.4xx	AV	2	2 BSPP	163.0	24.0	80.0	75	2.0
419.51x	AV	2	2 BSPP	199.0	24.0	102.0	95	3.7
419.51x	AY	2	2 1/2 BSPP	202.0	27.0	102.0	95	3.8
419.54x	AY	2	2 1/2 BSPP	202.0	27.0	102.0	95	3.8
419.57x	AY	2	2 1/2 BSPP	231.0	27.0	115.0	105	5.2
419.57x	LA	2	3 BSPP	233.0	30.0	115.0	105	5.2
419.6xx	LA	2	3 BSPP	252.0	30.0	122.0	115	5.4

Spray angle <sup>1</sup>	Ordering no.					Bore diameter B [mm]	Narrowest free cross sections Ø [mm]	V̇ water [l/min]					Spray diameter D [mm] (at p = 1 bar)	
	Type	Mat. no.	Code					p [bar]					 H = 500 [mm]    H = 1,000 [mm]	
		1Y	Stainless steel 316L	2 BSPP	2 1/2 BSPP			3 BSPP	0.3	0.5	1.0	2.0		
90°	419.366	●	AV			19.0	17.5	117	143	<b>189</b>	249	360	1,200	2,200
	419.396	●	AV			21.2	17.5	140	172	<b>227</b>	300	432	1,200	2,200
	419.446	●	AV			24.0	20.5	187	230	<b>303</b>	400	577	1,200	2,200
	419.486	●	AV			29.0	20.5	234	287	<b>379</b>	500	721	1,200	2,200
	419.516	●	AV	AY		29.2	24.1	281	345	<b>455</b>	600	866	1,200	2,200
	419.546	●		AY		33.0	24.1	332	408	<b>538</b>	710	1,024	1,200	2,200
	419.576	●		AY	LA	35.0	27.2	398	488	<b>644</b>	850	1,226	1,200	2,200
	419.606	●			LA	37.5	30.1	468	574	<b>758</b>	1,000	1,443	1,200	2,200
	419.626	●			LA	43.0	30.1	585	718	<b>947</b>	1,250	1,803	1,200	2,200
120°	419.368	●	AV			21.0	17.4	117	143	<b>189</b>	249	360	1,660	2,900
	419.398	●	AV			24.2	17.4	140	172	<b>227</b>	300	432	1,660	2,900
	419.448	●	AV			24.5	20.5	187	230	<b>303</b>	400	577	1,660	2,900
	419.488	●	AV			29.5	20.5	234	287	<b>379</b>	500	721	1,660	2,900
	419.518	●	AV	AY		29.2	24.1	281	345	<b>455</b>	600	866	1,660	2,900
	419.548	●		AY		34.0	24.1	332	408	<b>538</b>	710	1,024	1,660	2,900
	419.578	●		AY	LA	35.0	28.6	398	488	<b>644</b>	850	1,226	1,660	2,900
	419.608	●			LA	38.0	32.2	468	574	<b>758</b>	1,000	1,443	1,660	2,900
	419.628	●			LA	43.5	32.2	585	718	<b>947</b>	1,250	1,803	1,660	2,900

<sup>1</sup> Spray angle at 1 bar.

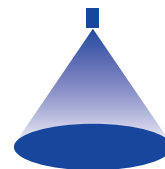
Conversion formula for this series:  $\dot{V}_2 = \dot{V}_1 \cdot \left(\frac{p_2}{p_1}\right)^{0.4}$  (≤ 10 bar)

Ordering Type + Material no. + Code = Ordering no.  
 example: 419.366 + 1Y + AV = 419.366.1Y.AV

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

# ➤ Axiální trysky s rozstříkem plného kužele

## Series 468



### Features:

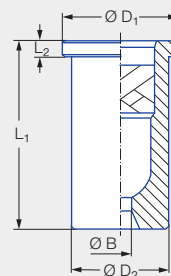
- Extremely uniform liquid distribution
- Assembly with retaining nut

### Applications:

- Surface spraying
- Chemical process engineering
- Cleaning and washing processes
- Water treatment



Series 468



Code	Dimensions [mm]			Weight [g] (brass)
	L <sub>2</sub>	Ø D <sub>1</sub>	Ø D <sub>2</sub>	
Assembly with retaining nut 3/8 BSPP	2.00	14.80	12.65	18.00

Spray angle	Ordering no.				Bore diameter B [mm]	Narrowest free cross sections Ø [mm]	L <sub>1</sub> [mm]	V̇ water [l/min]						Spray diameter D [mm] (at p = 2 bar)	
	Type	Mat. no.						p [bar]						H = 250 [mm]	H = 500 [mm]
		17 <sup>1</sup>	30	5E				0.5	1.0	2.0	3.0	5.0	10.0		
60°	468.604	●	●		2.05	1.40	18.00	1.81	2.39	<b>3.15</b>	3.70	4.54	6.00	280	560
	468.644		●	●	2.40	1.90	24.50	2.30	3.03	<b>4.00</b>	4.70	5.77	7.61	290	570
	468.684		●		2.60	2.00	24.50	2.87	3.79	<b>5.00</b>	5.88	7.21	9.52	300	580
	468.724	●	●		2.90	2.00	24.50	3.62	4.77	<b>6.30</b>	7.41	9.09	11.99	310	590
90°	468.526	●	●	●	1.65	1.30	18.00	1.15	1.52	<b>2.00</b>	2.35	2.89	3.81	460	780
	468.846	●	●		4.05	3.20	24.50	7.18	9.47	<b>12.50</b>	14.70	18.03	23.80	500	920
120°	468.368		●		0.95	0.70	18.00	0.36	0.48	<b>0.63</b>	0.74	0.91	1.20	740	1,750
	468.408	●	●		1.20	0.85	18.00	0.57	0.76	<b>1.00</b>	1.18	1.44	1.90	740	1,750
	468.488	●	●		1.50	1.00	18.00	0.92	1.21	<b>1.60</b>	1.88	2.31	3.05	740	1,750
	468.528	●	●		1.65	1.20	18.00	1.15	1.52	<b>2.00</b>	2.35	2.89	3.81	740	1,750

<sup>1</sup> We reserve the right to supply material 316Ti or 316L under material no. 17.

Conversion formula for this series:  $\dot{V}_2 = \dot{V}_1 \cdot \left(\frac{p_2}{p_1}\right)^{0.4}$   
(≤ 10 bar)

Ordering Type + Material no. = Ordering no.  
example: 468.604 + 17 = 468.604.17



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

# ➤ Tangenciální trysky s rozstříkem plného kužele

## stainless steel/brass version

### Series 422/423



#### Features:

- Tangentially arranged supply of liquid
- Without swirl inserts
- Non-clogging
- Stable spray angle
- Uniform liquid distribution

#### Applications:

- Surface spraying
- Cooling
- Cleaning and washing processes
- Foam control

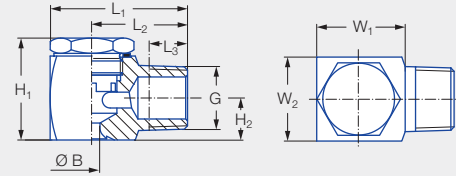
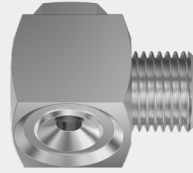


Figure 1

Series 422/423

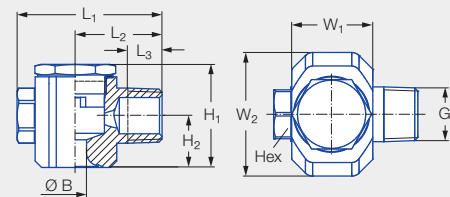
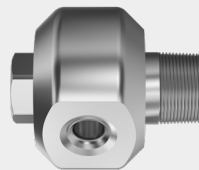


Figure 2

Code	Figure	G	Dimensions [mm]								Weight [g] (stainless steel 316L)
			H <sub>1</sub>	H <sub>2</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	W <sub>1</sub>	W <sub>2</sub>	Hex	
<b>CC</b>	1	1/4 BSPT	21.0	8.0	28.0	20.0	9.7	15.6	16.0	–	44.0
<b>CE</b>	1	3/8 BSPT	26.7	11.0	36.0	25.0	10.1	23.2	22.0	–	101.0
<b>CG</b>	2	1/2 BSPT	40.0	20.0	56.0	33.5	13.2	32.0	48.0	19	370.0
<b>CK</b>	2	3/4 BSPT	57.0	23.5	65.5	38.5	14.5	40.0	63.0	27	830.0
<b>CM</b>	2	1 BSPT	66.0	27.3	85.0	48.5	16.8	55.0	78.0	36	1.581.0

Spray angle	Ordering no.							Bore diameter B [mm]	Narrowest free cross sections 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]	
		1Y	30	1/4 BSPT	3/8 BSPT	1/2 BSPT	3/4 BSPT			1 BSPT	0.5	1.0	2.0	3.0	5.0			10.0
		Stainless steel 316L	Brass															
60°	<b>422.644</b>	●	●	<b>CE</b>				3.00	3.00	2.00	2.83	<b>4.00</b>	4.90	6.32	8.94	300	580	
90°	<b>422.406</b>	●	●	<b>CC</b>				1.40	1.40	0.50	0.71	<b>1.00</b>	1.22	1.58	2.24	430	800	
	<b>422.486</b>	●		<b>CC</b>				1.85	1.85	0.80	1.13	<b>1.60</b>	1.96	2.53	3.58	450	820	
	<b>422.566</b>	●	●	<b>CC</b>				2.25	2.25	1.25	1.77	<b>2.50</b>	3.06	3.95	5.59	470	840	
	<b>422.606</b>	●	●	<b>CE</b>				2.55	2.55	1.57	2.23	<b>3.15</b>	3.86	4.98	7.04	480	860	
	<b>422.646</b>	●	●	<b>CE</b>				2.90	2.90	2.00	2.83	<b>4.00</b>	4.90	6.32	8.94	500	880	
	<b>422.726</b>		●	<b>CE</b>				3.70	3.70	3.15	4.45	<b>6.30</b>	7.72	9.96	14.09	520	910	
	<b>422.766</b>	●		<b>CE</b>				4.15	4.15	4.00	5.66	<b>8.00</b>	9.80	12.65	17.89	520	910	
	<b>422.806</b>		●	<b>CE</b>				4.65	4.65	5.00	7.07	<b>10.00</b>	12.25	15.81	22.36	520	910	
	<b>422.846</b>	●	●	<b>CE</b>				5.30	5.30	6.25	8.84	<b>12.50</b>	15.31	19.76	27.95	520	910	
	<b>422.886</b>	●	●	<b>CE</b>				5.85	5.85	8.00	11.31	<b>16.00</b>	19.60	25.30	35.78	520	910	
<b>422.966</b>	●			<b>CG</b>				8.00	8.00	12.50	17.68	<b>25.00</b>	30.62	39.53	55.90	520	910	







Spray angle	Ordering no.								Bore diameter B [mm]	Narrowest free cross sections 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]
		1Y	30	1/4 BSPT	3/8 BSPT	1/2 BSPT	3/4 BSPT	1 BSPT			0.5	1.0	2.0	3.0	5.0	10.0		
		Stainless steel 316L	Brass															
120°	422.488		●	CC					1.90	1.90	0.80	1.13	<b>1.60</b>	1.96	2.53	3.58	670	1,200
	422.568	●	●	CC					2.45	2.40	1.25	1.77	<b>2.50</b>	3.06	3.95	5.59	700	1,230
	422.608		●		CE				2.70	2.70	1.57	2.23	<b>3.15</b>	3.86	4.98	7.04	710	1,250
	422.728	●	●		CE				4.00	3.90	3.15	4.45	<b>6.30</b>	7.72	9.96	14.09	770	1,360
	422.808	●			CE				4.90	4.90	5.00	7.07	<b>10.00</b>	12.25	15.81	22.36	830	1,490
	422.848	●	●		CE				5.30	5.30	6.25	8.84	<b>12.50</b>	15.31	19.76	27.95	860	1,550
	422.888	●	●		CE				6.60	6.00	8.00	11.31	<b>16.00</b>	19.60	25.30	35.78	880	1,570
	422.928	●				CG			7.30	7.30	10.00	14.14	<b>20.00</b>	24.49	31.62	44.72	890	1,580
	422.968	●	●			CG			8.00	8.00	12.50	17.68	<b>25.00</b>	30.62	39.53	55.90	890	1,590
	423.008	●				CG			8.70	8.70	15.75	22.27	<b>31.50</b>	38.58	49.81	70.44	890	1,590
	423.128	●					CK		12.70	12.30	31.50	44.55	<b>63.00</b>	77.16	99.61	140.87	890	1,590
423.208	●						CM	17.00	16.00	50.00	70.71	<b>100.00</b>	122.47	158.11	223.61	890	1,590	

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: 422.488 + 30 + CC = 422.488.30.CC



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

# ➤ Tangenciální trysky s rozstříkem plného kužele

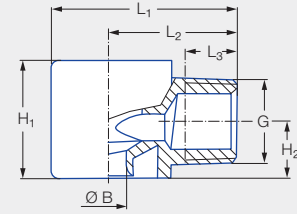
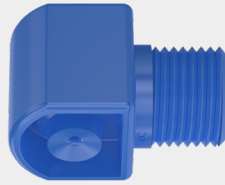
## plastic version

### Series 422/423



#### Features:

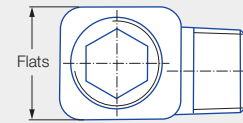
- Tangentially arranged supply of liquid
- Without swirl inserts
- Non-clogging
- Stable spray angle
- Uniform liquid distribution
- High chemical resistance



#### Applications:

- Surface spraying
- Cooling
- Cleaning and washing processes
- Foam control

Series 422/423



Code	G	Dimensions [mm]						Weight [g]
		H <sub>1</sub>	H <sub>2</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	Flats	
<b>CC</b>	1/4 BSPT	16.0	8.0	28.0	20.0	9.8	16.0	7.0
<b>CE</b>	3/8 BSPT	23.0	11.2	36.0	25.0	10.1	22.0	16.0
<b>CG</b>	1/2 BSPT	38.0	19.2	49.5	33.5	13.2	32.0	40.0
<b>CK</b>	3/4 BSPT	50.0	24.5	58.5	38.5	18.5	41.0	50.0

Spray angle	Ordering no.						Bore diameter B [mm]	Narrowest free cross sections 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]
		5E							0.5	1.0	2.0	3.0	5.0	10.0		
60°	<b>422.724</b>	●		<b>CE</b>			3.60	3.60	3.15	4.45	<b>6.30</b>	7.72	9.96	14.09	320	560
90°	<b>422.406</b>	●	<b>CC</b>				1.50	1.45	0.50	0.71	<b>1.00</b>	1.22	1.58	2.24	530	900
	<b>422.566</b>	●	<b>CC</b>				2.30	2.20	1.25	1.77	<b>2.50</b>	3.06	3.95	5.59	530	920
	<b>422.606</b>	●		<b>CE</b>			2.60	2.50	1.58	2.23	<b>3.15</b>	3.86	4.98	7.04	540	920
	<b>422.646</b>	●		<b>CE</b>			3.00	2.90	2.00	2.83	<b>4.00</b>	4.90	6.32	8.94	540	930
	<b>422.726</b>	●		<b>CE</b>			3.70	3.60	3.15	4.45	<b>6.30</b>	7.72	9.96	14.09	550	950
	<b>422.806</b>	●		<b>CE</b>			4.65	4.60	5.00	7.07	<b>10.00</b>	12.25	15.81	22.36	560	980
	<b>422.846</b>	●		<b>CE</b>			5.30	5.30	6.25	8.84	<b>12.50</b>	15.31	19.76	27.95	560	990
	<b>422.886</b>	●		<b>CE</b>			5.80	5.80	8.00	11.31	<b>16.00</b>	19.60	25.30	35.78	570	1,010
	<b>422.926</b>	●			<b>CG</b>		7.30	7.30	10.00	14.14	<b>20.00</b>	24.49	31.62	44.72	570	1,030
	<b>422.966</b>	●			<b>CG</b>		8.00	8.00	12.50	17.68	<b>25.00</b>	30.62	39.53	55.90	580	1,040
	<b>423.006</b>	●			<b>CG</b>		8.70	8.70	15.75	22.27	<b>31.50</b>	38.58	49.81	70.44	580	1,040
<b>423.126</b>	●				<b>CK</b>	12.00	12.00	31.50	44.55	<b>63.00</b>	77.16	99.61	140.87	580	1,050	






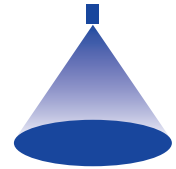
Spray angle	Ordering no.						Bore diameter B [mm]	Narrowest free cross sections Ø [mm]	V̇ water [l/min]						Spray diameter D [mm] (at p = 2 bar)	
	Type	Mat. no.	Code						p [bar]						H = 250 [mm]	H = 500 [mm]
		5E	1/4 BSPT	3/8 BSPT	1/2 BSPT	3/4 BSPT			0.5	1.0	2.0	3.0	5.0	10.0		
		PVDF														
120°	422.408	●	CC				1.50	1.45	0.50	0.71	1.00	1.22	1.58	2.24	670	1,200
	422.448	●	CC				1.65	1.60	0.63	0.88	1.25	1.53	1.98	2.80	680	1,210
	422.488	●	CC				1.90	1.90	0.80	1.13	1.60	1.96	2.53	3.58	680	1,230
	422.568	●	CC				2.40	2.40	1.25	1.77	2.50	3.06	3.95	5.59	700	1,260
	422.728	●		CE			4.00	3.90	3.15	4.45	6.30	7.72	9.96	14.09	770	1,400
	422.888	●		CE			6.60	6.00	8.00	11.31	16.00	19.60	25.30	35.78	940	1,590
	422.968	●			CG		8.00	8.00	12.50	17.68	25.00	30.62	39.53	55.90	960	1,620
	423.008	●			CG		8.70	8.70	15.75	22.27	31.50	38.58	49.81	70.44	970	1,630
423.128	●				CK	12.70	12.30	31.50	44.55	63.00	77.16	99.61	140.87	990	1,660	

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: 422.408 + 5E + CC = 422.408.5E.CC

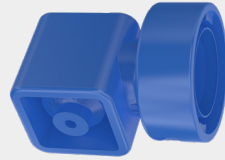
 Assembly accessories can be found in Chapter 9 "Accessories".

# ➤ Tangenciální trysky s rozstřikem plného kužele, plastic version with bayonet quick-release system Series 422



## Features:

- Without swirl inserts
- Non-clogging
- Stable spray angle
- Simple and quick assembly
- Uniform liquid distribution
- High chemical resistance



Series 422

## Applications:

- Surface spraying
- Cooling
- Cleaning and washing processes
- Foam control

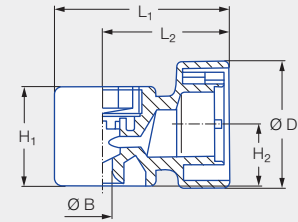
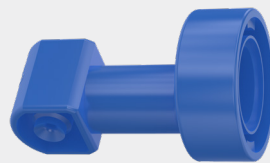


Figure 1

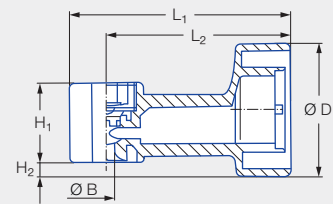




Figure 2

Type	Code	Figure	Dimensions [mm]					Weight [g] (PVDF)
			H <sub>1</sub>	H <sub>2</sub>	L <sub>1</sub>	L <sub>2</sub>	Ø D	
422,644/422,606/422,608	KB	1	23.0	14.0	40.0	29.0	29.5	20.0
422,406/422,408/422,528	KB	2	17.5	3.5	48.0	40.0	29.5	14.0

Spray angle	Ordering no.			Bore diameter B [mm]	Narrowest free cross sections 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]	
		5E	53											
		PVDF	PP				Bayonet quick-release system	0.5	1.0	2.0	3.0	5.0	10.0	
60°	422.644		●	KB	2.90	2.90	2.00	2.83	4.00	4.90	6.32	8.94	250	490
90°	422.406	●		KB	1.50	1.45	0.50	0.71	1.00	1.22	1.58	2.24	530	900
	422.606	●		KB	2.60	2.50	1.58	2.23	3.15	3.86	4.98	7.04	540	920
120°	422.408	●		KB	1.50	1.45	0.50	0.71	1.00	1.22	1.58	2.24	670	1,140
	422.528	●		KB	2.10	2.00	1.00	1.41	2.00	2.45	3.16	4.47	690	1,220
	422.608	●		KB	2.60	2.50	1.58	2.23	3.15	3.86	4.98	7.04	710	1,260

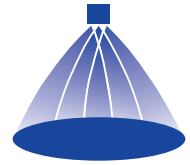
Conversion formula for this series:  $\dot{V}_2 = \dot{V}_1 \cdot \sqrt{\frac{p_2}{p_1}}$

Ordering Type + Material no. + Code = Ordering no.  
example: 422.644 + 53 + KB = 422.644.53.KB

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

# Cluster head nozzles

## Series 502/503

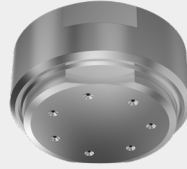


### Features:

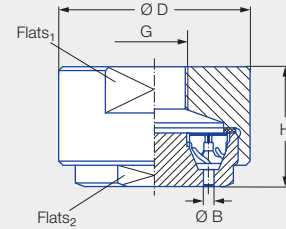
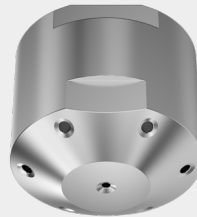
- Fine, uniform atomization
- Stable spray angle
- Space-saving installation
- Maintenance-friendly design
- High temperature and chemical resistance

### Applications:

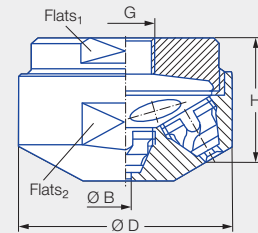
- Chlorine precipitation
- Absorption
- Dust suppression
- Degassing of liquids
- Desuperheating



Series 502/503



70° version



130° version

### 70° version

G	Dimensions [mm]				Weight [g] (brass)
	H	Ø D	Flats <sub>1</sub>	Flats <sub>2</sub>	
1/2 BSPP	25.0	50.0	46	38	250.0
3/4 BSPP	46.0	75.0	65	55	870.0

### 130° version

G	Dimensions [mm]				Weight [g] (brass)
	H	Ø D	Flats <sub>1</sub>	Flats <sub>2</sub>	
1/2 BSPP	28.0	40.0	27	36	150.0
3/4 BSPP	53.0	60.0	50	55	410.0

Spray angle	Ordering no.			BSPP	Bore diameter B [mm]	Narrowest free cross sections Ø [mm]	V̇ water [l/min]					Spray diameter D [mm] (at p = 2 bar)		
	Type	Mat. no.					p [bar]					H = 500 [mm]		H = 1,000 [mm]
		17 <sup>1</sup>	30				0.5	1.0	2.0	5.0	10.0			
70°	502.445		●	1/2	0.90	0.50	–	–	1.25	1.98	2.80	270	360	
	502.985	●		3/4	3.30	2.00	14.00	19.80	28.00	44.27	62.61	610	1,000	
	503.065	●		3/4	4.90	2.00	22.50	31.82	45.00	71.15	100.62	920	1,520	
130°	502.448	●	●	1/2	0.90	0.50	–	–	1.25	1.98	2.80	310	370	
	502.548	●	●	1/2	1.80	0.50	–	1.58	2.24	3.54	5.01	450	570	
	502.748	●	●	3/4	1.90	1.90	3.55	5.02	7.10	11.23	15.88	1,110	1,400	
	502.838	●	●	3/4	2.90	2.00	5.90	8.34	11.80	18.66	26.39	1,500	2,060	
	502.908	●	●	3/4	4.00	2.00	9.00	12.73	18.00	28.46	40.25	1,770	2,650	
	503.028	●	●	3/4	4.20	2.00	17.75	25.10	35.50	56.13	79.38	2,050	3,150	
	503.118	●	●	3/4	6.50	2.00	30.00	42.43	60.00	94.87	134.16	2,300	3,550	

<sup>1</sup> We reserve the right to supply material 316Ti or 316L under material no. 17.

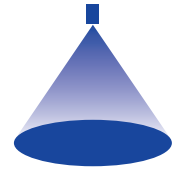
Conversion formula for this series:  $\dot{V}_2 = \dot{V}_1 \cdot \sqrt{\frac{p_2}{p_1}}$

Ordering Type + Material no. = Ordering no.  
example: 502.445 + 30 = 502.445.30

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

# Deflector-plate nozzles

## Series 524/525

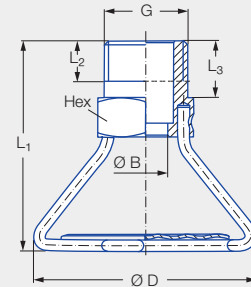


### Features:

- Full cone atomization
- Large impact area
- Non-clogging

### Applications:

- Fire fighting
- Sprinkling
- Dust suppression



Series 524/525

G	Dimensions [mm]					Weight [g] (brass)
	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	Ø D	Hex	
1/2 BSPP	53.5	11.0	14.5	56.0	24	68.0

Spray angle	Ordering no.			Bore diameter B [mm]	V̇ water [l/min]						Spray diameter D [mm] (at p = 2 bar)	
	Type	Mat. no.			p [bar]						H = 1,000 [mm]	H = 3,000 [mm]
		17 <sup>1</sup>	30		0.5	1.0	2.0	3.0	5.0	10.0		
180°	524.809	●	●	4.00	5.00	7.07	10.00	12.25	15.81	22.36	3,800	4,300
	525.049	●	●	8.00	20.00	28.28	40.00	48.99	63.25	89.44	10,000	11,500
	525.109	●	●	9.30	28.00	39.60	56.00	89.59	88.54	125.22	10,500	12,750
	525.169	●	●	10.90	40.00	56.57	80.00	97.98	126.49	178.89	10,500	14,500
	525.229	●	●	12.20	56.00	79.20	112.00	137.17	177.09	250.44	7,500	11,500
	525.269	●	●	12.30	70.00	98.99	140.00	171.46	221.36	313.05	7,000	12,000

<sup>1</sup> We reserve the right to supply material 316Ti or 316L under material no. 17.

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: 524.809 + 17 = 524.809.17

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