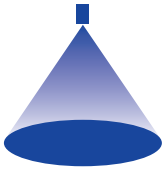
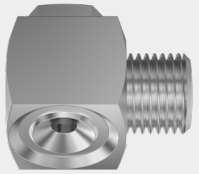
Tangential-flow full cone nozzles stainless steel/brass version
Series 422/423



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



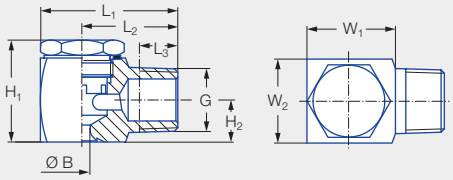
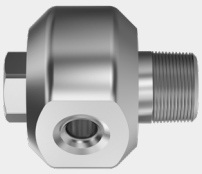


Figure 1

Series 422/423



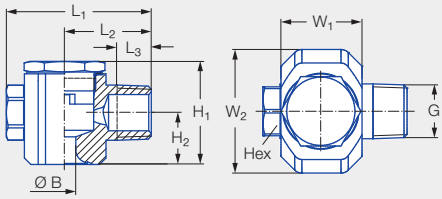
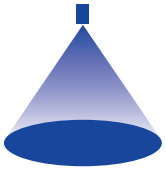


Figure 2

Connection	Figure	G	Dimensions [in]								Weight [lb] (stainless steel 316L)
			H_1	H_2	L_1	L_2	L_3	W_1	W_2	Hex (mm)	
BC	1	1/4 NPT	0.83	0.31	1.10	0.79	0.38	0.61	0.61	–	0.1
BE	1	3/8 NPT	1.05	0.43	1.42	0.98	0.40	0.91	0.91	–	0.22
BG	2	1/2 NPT	1.57	0.79	2.20	1.32	0.52	1.26	1.26	19	0.82
BK	2	3/4 NPT	2.24	0.93	2.58	1.52	0.57	1.57	1.57	27	1.83
BM	2	1 NPT	2.60	1.07	3.35	1.91	0.66	2.17	2.17	36	3.49

Spray angle	Ordering Number										Bore diameter [in]	Narrowest free cross sections Ø [in]	V̇ water gal/min] p [psi]							Spray diameter D [in] (at p = 30 psi)	
	Type	Material number		Connection												Liters per min.				H =10 [in]	H =20 [in]
		1Y 316L SS	30 Brass	1/4 NPT	3/8 NPT	1/2 NPT	3/4 NPT	1 NPT	1-1/4 NPT	2 NPT			10	20	30	2 bar	40	60	80	100	
30°	422.882	●				BE					0.193	0.193	2.48	3.51	4.30	**16.00**	4.96	6.08	7.02	7.85	6	15
	423.082	●					BK				0.323	0.323	7.76	10.97	13.43	**50.00**	15.51	19.00	21.94	24.53	6	15
	423.202	●							BP		0.472	0.472	15.51	21.94	26.87	**100.00**	31.03	38.00	43.88	49.06	6	15
60°	422.364	●		BC							0.045	0.043	0.09	0.13	0.16	**0.60**	0.19	0.23	0.26	0.29	10	20
	422.484	●		BC							0.071	0.071	0.25	0.35	0.43	**1.60**	0.50	0.61	0.70	0.78	10	20
	422.524	●			BE						0.079	0.079	0.31	0.44	0.54	**2.00**	0.62	0.76	0.88	0.98	10	20
	422.564	●			BE						0.089	0.089	0.39	0.55	0.67	**2.50**	0.78	0.95	1.10	1.23	10	20
	422.644	●	●		BE						0.118	0.118	0.62	0.88	1.07	**4.00**	1.24	1.52	1.76	1.96	10	20
	422.724	●			BE						0.142	0.142	0.98	1.38	1.69	**6.30**	1.95	2.39	2.76	3.09	10	20
	422.784	●				BG					0.163	0.163	1.40	1.97	2.42	**9.00**	2.79	3.42	3.95	4.42	10	20
	422.884	●				BG					0.252	0.252	2.48	3.51	4.30	**16.00**	4.96	6.08	7.02	7.85	15	25
	423.124	●					BK				0.441	0.441	9.77	13.82	16.93	**63.00**	19.55	23.94	27.65	30.91	15	25
	423.174	●						BM			0.500	0.500	13.19	18.65	22.84	**85.00**	26.37	32.30	37.30	41.70	15	25
	423.414	●								BV	0.969	0.969	51.97	73.50	90.00	**335.00**	103.95	127.31	147.00	164.30	15	25

Also available in metric thread.



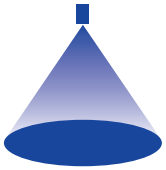
Spray angle	Ordering Number: Type	Material number: 1Y 316L SS	Material number: 30 Brass	Connection: 1/4 NPT	3/8 NPT	1/2 NPT	3/4 NPT	1 NPT	1-1/4 NPT	2 NPT	2-1/2 NPT	3 NPT	Bore diameter [in]	Narrowest free cross sections Ø [in]	Liters per min. 10	20	30	2 bar	40	60	80	100	Spray diameter D [in] (at p = 30 psi) H =10 [in]	H =20 [in]
90°	422.286	●		BC									0.027	0.027	0.04	0.05	0.07	**0.25**	0.08	0.09	0.11	0.12	20	35
	422.326	●		BC									0.033	0.031	0.06	0.09	0.11	**0.40**	0.12	0.15	0.18	0.20	20	35
	422.346	●		BC									0.037	0.035	0.08	0.11	0.13	**0.50**	0.16	0.19	0.22	0.25	20	35
	422.366	●		BC									0.043	0.043	0.09	0.13	0.16	**0.60**	0.19	0.23	0.26	0.29	20	35
	422.406	●	●	BC									0.059	0.057	0.16	0.22	0.27	**1.00**	0.31	0.38	0.44	0.49	20	35
	422.446	●		BC									0.065	0.063	0.20	0.29	0.35	**1.30**	0.40	0.49	0.57	0.64	20	35
	422.486	●		BC									0.075	0.071	0.25	0.35	0.43	**1.60**	0.50	0.61	0.70	0.78	20	35
	422.506	●		BC									0.079	0.079	0.28	0.39	0.48	**1.80**	0.56	0.68	0.79	0.88	20	36
	422.526	●		BC									0.083	0.083	0.31	0.44	0.54	**2.00**	0.62	0.76	0.88	0.98	20	36
	422.566	●	●	BC									0.091	0.087	0.39	0.55	0.67	**2.50**	0.78	0.95	1.10	1.23	20	36
	422.606	●	●		BE								0.102	0.099	0.49	0.69	0.85	**3.15**	0.98	1.20	1.38	1.55	20	36
	422.646	●	●		BE								0.118	0.114	0.62	0.88	1.07	**4.00**	1.24	1.52	1.76	1.96	20	36
	422.686	●	●		BE								0.130	0.126	0.78	1.10	1.34	**5.00**	1.55	1.90	2.20	2.45	20	36
	422.706	●			BE								0.138	0.134	0.87	1.23	1.50	**5.60**	1.74	2.13	2.46	2.75	20	38
	422.726	●	●		BE								0.146	0.142	0.98	1.38	1.69	**6.30**	1.95	2.39	2.76	3.09	20	38
	422.766	●			BE								0.163	0.161	1.24	1.76	2.15	**8.00**	2.48	3.04	3.51	3.92	20	38
	422.786	●			BE								0.173	0.169	1.40	1.97	2.42	**9.00**	2.79	3.42	3.95	4.42	20	38
	422.806	●	●		BE								0.183	0.181	1.55	2.19	2.69	**10.00**	3.10	3.80	4.39	4.91	20	38
	422.846	●	●		BE								0.205	0.201	1.94	2.74	3.36	**12.50**	3.88	4.75	5.49	6.13	20	38
	422.886	●	●		BE								0.229	0.225	2.48	3.51	4.30	**16.00**	4.96	6.08	7.02	7.85	20	40
	422.926	●				BG							0.287	0.287	3.10	4.39	5.37	**20.00**	6.21	7.60	8.78	9.81	20	40
	422.966	●				BG							0.315	0.315	3.88	5.49	6.72	**25.00**	7.76	9.50	10.97	12.27	20	40
	423.006	●				BG							0.343	0.343	4.81	6.80	8.33	**31.00**	9.62	11.78	13.60	15.21	20	40
	423.046	●					BK						0.426	0.402	6.21	8.78	10.75	**40.00**	12.41	15.20	17.55	19.62	20	40
	423.086	●					BK						0.449	0.433	7.76	10.97	13.43	**50.00**	15.51	19.00	21.94	24.53	20	40
	423.126	●					BK						0.500	0.485	9.77	13.82	16.93	**63.00**	19.55	23.94	27.65	30.91	20	40
	423.146	●						BM					0.552	0.532	11.02	15.58	19.07	**71.00**	22.03	26.98	31.16	34.83	20	40
	423.206	●						BM					0.670	0.630	15.51	21.94	26.87	**100.00**	31.03	38.00	43.88	49.06	20	40
	423.286	●							BP				0.748	0.748	24.82	35.11	42.98	**160.00**	49.63	60.79	70.19	78.48	20	40
	423.406	●								BV			0.965	0.965	48.87	69.11	84.63	**315.00**	97.72	119.68	138.19	154.50	20	40
	423.486	●									BY		1.240	1.240	77.57	109.70	134.33	**500.00**	155.11	189.97	219.35	245.25	20	40
	423.526	●										MA	1.398	1.398	97.74	138.23	169.25	**630.00**	195.43	239.36	276.39	309.01	20	40

Also available in metric thread.

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

Ordering example:	Type 422.488	+ Material no. 30	+ Connection CC	= Ordering no. 422.488.30.CC

Assembly accessories can be found in Chapter 12 “Accessories”.



Spray angle	Ordering Number											Bore diameter [in]	Narrowest free cross sections Ø [in]	V̇ water [gal/min]								Spray diameter D [in] (at p = 30 psi)	
	Type	Material number		Connection										p [psi]								H =10 [in]	H =20 [in]
		1Y	30	1/4 NPT	3/8 NPT	1/2 NPT	3/4 NPT	1 NPT	1-1/4 NPT	2 NPT	2-1/2 NPT			10	20	30	Liters per min. 2 bar	40	60	80	100		
		316L SS	Brass																				
120°	422.368	●		BC								0.047	0.047	0.09	0.13	0.16	**0.60**	0.19	0.23	0.26	0.29	26	47
	422.408	●		BC								0.059	0.057	0.16	0.22	0.27	**1.00**	0.31	0.38	0.44	0.49	26	47
	422.448	●		BC								0.065	0.063	0.19	0.27	0.34	**1.25**	0.39	0.47	0.55	0.61	26	47
	422.488	●	●	BC								0.075	0.071	0.25	0.35	0.43	**1.60**	0.50	0.61	0.70	0.78	26	47
	422.508	●		BC								0.079	0.075	0.28	0.39	0.48	**1.80**	0.56	0.68	0.79	0.88	26	47
	422.528	●		BC								0.083	0.079	0.31	0.44	0.54	**2.00**	0.62	0.76	0.88	0.98	26	47
	422.568	●	●	BC								0.091	0.087	0.39	0.55	0.67	**2.50**	0.78	0.95	1.10	1.23	26	47
	422.608	●	●		BE							0.102	0.098	0.49	0.69	0.85	**3.15**	0.98	1.20	1.38	1.55	26	47
	422.648	●			BE							0.118	0.114	0.62	0.88	1.07	**4.00**	1.24	1.52	1.76	1.96	26	47
	422.688	●			BE							0.130	0.126	0.78	1.10	1.34	**5.00**	1.55	1.90	2.19	2.45	26	47
	422.708	●			BE							0.138	0.134	0.87	1.23	1.50	**5.60**	1.74	2.13	2.46	2.75	26	47
	422.728	●	●		BE							0.146	0.142	0.98	1.38	1.69	**6.30**	1.95	2.39	2.76	3.09	30	55
	422.768	●			BE							0.163	0.161	1.24	1.76	2.15	**8.00**	2.48	3.04	3.51	3.92	30	55
	422.788	●			BE							0.173	0.169	1.40	1.97	2.42	**9.00**	2.79	3.42	3.95	4.42	30	55
	422.808	●			BE							0.183	0.181	1.55	2.19	2.69	**10.00**	3.10	3.80	4.39	4.91	33	58
	422.848	●	●		BE							0.205	0.201	1.94	2.74	3.36	**12.50**	3.88	4.75	5.49	6.13	33	58
	422.888	●	●		BE							0.228	0.224	2.48	3.51	4.30	**16.00**	4.96	6.08	7.02	7.85	33	58
	422.928	●				BG						0.287	0.287	3.10	4.39	5.37	**20.00**	6.21	7.60	8.78	9.81	35	63
	422.968	●	●			BG						0.315	0.315	3.88	5.49	6.72	**25.00**	7.76	9.50	10.97	12.27	35	63
	422.988	●				BG						0.331	0.331	4.34	6.14	7.52	**28.00**	8.69	10.64	12.29	13.74	35	63
	423.008	●				BG						0.343	0.343	4.89	6.91	8.46	**31.50**	9.77	11.97	13.82	15.45	35	63
	423.048	●					BK					0.426	0.402	6.21	8.78	10.75	**40.00**	12.41	15.20	17.55	19.62	35	63
	423.088	●					BK					0.449	0.433	7.76	10.97	13.43	**50.00**	15.51	19.00	21.94	24.53	35	63
	423.128	●					BK					0.500	0.485	9.77	13.82	16.93	**63.00**	19.55	23.94	27.65	30.91	35	63
	423.148	●						BM				0.552	0.532	11.02	15.58	19.07	**71.00**	22.03	26.98	31.16	34.83	35	63
	423.208	●						BM				0.670	0.630	15.51	21.94	26.87	**100.00**	31.03	38.00	43.88	49.06	35	63
	423.288	●							BP			0.748	0.748	24.82	35.11	42.98	**160.00**	49.63	60.79	70.19	78.48	35	63
	423.368	●								BR		0.875	0.875	38.79	54.85	67.16	**250.00**	77.55	94.98	109.68	122.62	35	63
	423.448	●									BV	1.220	1.161	62.06	87.76	107.46	**400.00**	124.09	151.97	175.48	196.20	35	63

Also available in metric thread.

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

Ordering example:	Type	+	Material no.	+	Connection	=	Ordering no.
	422.888	+	1Y	+	BE	=	422.888.1Y.BE

Assembly accessories can be found in Chapter 12 “Accessories”.