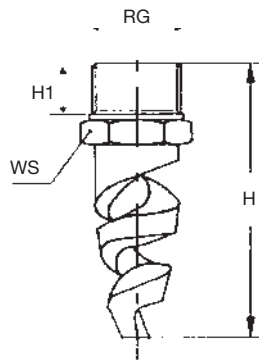


FULL CONE NOZZLES

E



SPIRAL NOZZLES

Spiral nozzles work on the impact principle, by deflection of a water stream onto a spiral profiled surface which provides the desired spray angle.

The spray angle value is maintained even at low pressure and when spraying high viscosity liquids.

While the droplet spray distribution is not comparable to the one provided by a standard full cone nozzle, the fact that a whirling vane is not required makes them virtually clog-free in most cases. Since spiral nozzles work on the impact principle and have no inherent turbulence losses, they produce faster and smaller droplets as compared to a standard full cone nozzle.

Capacity values on a grey background should be obtained with metal nozzles only, plastic materials being too weak to assure structural nozzle resistance.

See next page for materials, applications and assembly fittings.

Materials **B31** **AISI 316L Stainless steel**
 T1 **Brass**

The two above materials are usually available in stock, while several other materials as listed on page 25 can be obtained on request.

△	Code	RG inch	D mm	D1 mm	Capacity at different pressure values							Dimensions mm		
					0.7	1.0	2.0	3.0	5.0	7.0	10	H	H1	WS
60°	EBQ 1550 xx	1/4	2.4	2.4	2.66	3.18	4.49	5.50	7.10	8.40	10.0	45	12	14
	EBQ 2156 xx		4.0	3.2	7.54	9.01	12.7	15.6	20.1	23.8	28.5			
	ECQ 2230 xx	3/8	4.8	3.2	11.4	13.6	19.2	23.5	30.3	35.9	42.9	48	14	19
	ECQ 2410 xx		6.4	3.2	20.0	24.0	33.9	41.5	53.6	63.4	75.8			
	ECQ 2640 xx		7.9	3.2	31.2	37.3	52.7	64.6	83.4	99.0	118			
	EDQ 2940 xx	1/2	9.5	4.7	45.6	54.5	77.1	94.4	122	144	172	64	18	22
	EDQ 3128 xx		11.1	4.7	61.8	73.9	105	128	165	196	234			
	EEQ 3165 xx	3/4	12.7	4.7	79.7	95.3	135	165	213	252	301	70	19	27
	EFQ 3260 xx	1	15.9	6.3	126	150	212	260	336	397	475	92	26	34
	EHQ 3507 xx	1 1/2	22.2	7.9	245	293	414	507	655	774	926	111	27	50
90°	EBU 1550 xx	1/4	2.4	2.4	2.66	3.18	4.49	5.50	7.10	8.40	10.0	45	12	14
	EBU 2100 xx		3.2	3.2	4.83	5.77	8.16	10.0	12.9	15.3	18.3			
	EBU 2156 xx		4.0	3.2	7.54	9.01	12.7	15.6	20.1	23.8	28.5			
	ECU 2230 xx	3/8	4.8	3.2	11.4	13.6	19.2	23.5	30.3	35.9	42.9	48	14	19
	ECU 2317 xx		5.6	3.9	15.3	18.3	25.9	31.7	40.9	48.4	57.9			
	ECU 2410 xx		6.4	4.8	20.0	24.0	33.9	41.5	53.6	63.4	75.8			
	ECU 2640 xx		7.9	5.5	31.2	37.3	52.7	64.6	83.4	99.0	118			
	EDU 2940 xx	1/2	9.5	3.3	45.6	54.5	77.1	94.4	122	144	172	64	18	22
	EDU 3128 xx		11.1	3.7	61.8	73.9	105	128	165	196	234			
	EEU 3165 xx	3/4	12.7	4.7	79.7	95.3	135	165	213	252	301	70	19	27
	EFU 3260 xx	1	19.0	6.3	126	150	212	260	336	397	475	92	26	34
	EFU 3372 xx		23.0	6.3	180	215	304	372	480	568	679			
	EKU 4109 xx	2	34.9	11.1	527	629	890	1090	1407	1665	1990	149	31	65
	EMU 4204 xx	3	44.5	14.3	985	1178	1666	2040	2633	3116	3724	219	42	89
	EMU 4267 xx		50.8		1290	1541	2180	2670	3447	4078	4874			

Operation with pressure values and capacities shown on the grey background recommended for cast or machined metal nozzles only.



The picture shows the inside of a spiral nozzle with a completely free passage, without any internal vane.

FULL CONE NOZZLES

E

SPIRAL NOZZLES

Code	RG inch	D mm	D1 mm	Capacity at different pressure values								Dimensions mm		
				0.7	1.0	2.0	3.0	5.0	7.0	10	H	H1	WS	
120°	1/4	2.4	2.4	2.66	3.18	4.49	5.50	7.10	8.40	10.0	45	12	14	
				4.83	5.77	8.16	10.0	12.9	15.3					
				7.54	9.01	12.7	15.6	20.1	23.8	28.5				
	3/8	4.0	3.2	7.54	9.01	12.7	15.6	20.1	23.8	28.5	48	14	19	
				11.4	13.6	19.2	23.5	30.3	35.9	42.9				
				15.3	18.3	25.9	31.7	40.9	48.4	57.9				
				20.0	24.0	33.9	41.5	53.6	63.4	75.8				
				24.0	29.0	39.9	49.5	63.4	75.8	91.8				
				31.2	37.3	52.7	64.6	83.4	98.7	118				
	1/2	9.5	4.8	45.6	54.5	77.1	94.4	122	144	172	64	18	22	
				60.0	84.9	104	134	159	190					
				61.8	73.9	105	128	165	196	234				
	3/4	12.7	4.8	79.7	95.3	135	165	213	252	301	70	19	27	
				126	150	212	260	336	397	475				568
	1	15.9	6.3	126	150	212	260	336	397	475	92	26	34	
				180	215	304	372	480	568	679				
	1 1/2	22.2	7.9	245	293	414	507	655	774	926	111	27	50	
				320	383	541	663	856	1013	1210				
361				431	610	747	964	1141	1364					
2	34.9	11.1	527	629	890	1090	1407	1665	1990	149	31	65		
			671	803	1136	1391	1796	2125	2540					
3	44.5	14.3	985	1178	1666	2040	2634	3116	3725	203	35	90		
			1280	1530	2164	2650	3421	4048	4838					
4	63.5	15.9	1990	2379	3364	4120	5318	6293	7522	230	40	127		
150°	3/8	4.8	3.2	11.4	13.6	19.2	23.5	30.3	35.9	42.9	48	14	19	
				15.3	18.3	25.9	31.7	40.9	48.4	57.9				
				20.0	24.0	33.9	41.5	53.6	63.4	75.8				
				31.2	37.3	52.7	64.6	83.4	98.7	118				
	1/2	9.5	4.8	45.6	54.5	77.1	94.4	122	144	172	64	18	22	
				61.8	73.9	105	128	165	196	234				
	3/4	12.7	4.8	79.7	95.3	135	165	213	252	301	70	19	27	
				126	150	212	260	336	397	475				568
	1	15.9	6.3	126	150	212	260	336	397	475	92	26	34	
				180	215	304	372	480	568	679				
	1 1/2	22.2	7.9	245	293	414	507	655	774	926	111	27	50	
				320	383	541	663	856	1013	1210				
				361	431	610	747	964	1141	1364				
	2	34.9	11.1	527	629	890	1090	1407	1665	1990	149	31	65	
				671	803	1136	1391	1796	2125	2540				
180°	1/4	4.0	2.5	7.54	9.01	12.7	15.6	20.1	23.8	28.5	45	12	14	
				13.6	16.3	22.9	28.5	36.9	45.9	55.9				
	3/8	4.8	3.2	11.4	13.6	19.2	23.5	30.3	35.9	42.9	48	14	19	
				15.3	18.3	25.9	31.7	40.9	48.4	57.9				
	1/2	9.5	3.3	45.6	54.5	77.1	94.4	122	144	172	64	18	22	
				61.8	73.9	105	128	165	196	234				
	3/4	12.7	4.7	79.7	95.3	135	165	213	252	301	70	19	27	
				126	150	212	260	336	397	475				568
	1	15.9	6.3	126	150	212	260	336	397	475	92	25	36	
				180	215	304	372	480	568	679				
	1 1/2	22.2	7.9	245	293	414	507	655	774	926	111	27	50	
				320	383	541	663	856	1013	1210				
361				431	610	747	964	1141	1364					
2	34.9	11.1	527	629	890	1090	1407	1665	1990	149	31	63		
			671	803	1136	1391	1796	2125	2540					



Operation with pressure values and capacities shown on the grey background recommended for cast or machined metal nozzles only.

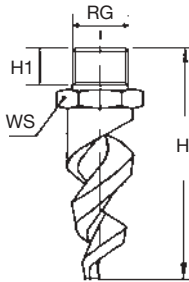
Spiral nozzles can be delivered in brass and all the plastic materials in the following list. Most types are also available from stock or with short delivery in cast 316 stainless steel. Please contact our sales offices for delivery time in a given material.

Materials

- B31 AISI 316L Stainless steel
- D1 PVC
- D2 Polypropylene
- D8 PVDF
- E1 PTFE
- L8 Hastelloy C 276
- T1 Brass

FULL CONE NOZZLES

E-X



SPIRAL NOZZLES/WIDE PASSAGE

E-X type nozzles feature the same design and advantages as the E-type nozzles, while the resistance to clogging is enhanced by a longer spiral pitch. The spiral pitch length is typically equal to the inlet orifice diameter, therefore any foreign particle entering the nozzle can also find a way out through the spiral opening.

Material list at the bottom of previous page.

Code	RG inch	D mm	D1 mm	Capacity at different pressure values (lpm)								Dimensions mm			
				0.7	1.0	2.0	3.0	5.0	7.0	10	H	H1	WS		
120°															
ECW 2230 xx Xy	3/8	4.8	4.8	11.4	13.6	19.2	23.5	30.3	35.9	42.9	70	15	22		
ECW 2317 xx Xy		5.6	5.6	15.3	18.3	25.9	31.7	40.9	48.4	57.9					
ECW 2410 xx Xy		6.4	6.4	20.0	24.0	33.9	41.5	53.6	63.4	75.8					
ECW 2640 xx Xy		7.9	7.9	31.2	37.3	52.7	64.6	83.4	98.7	118					
EDW 2940 xx Xy	1/2	9.5	9.5	45.6	54.5	77.1	94.4	122	144	172	86	18	27		
EDW 3128 xx Xy		11.1	11.1	61.8	73.9	105	128	165	196	234					
EEW 3165 xx Xy	3/4	12.7	12.7	79.7	95.3	135	165	213	252	301	130	20	27		
EFW 3260 xx Xy	1	16.0	16.0	126	150	212	260	336	397	475	131	26	34		
EFW 3372 xx Xy		19.0	19.0	180	215	304	372	480	568	679	168	26	34		
EHW 3507 xx Xy	1 1/2	22.2	22.2	245	293	414	507	655	774	926	171	27	50		
EHW 3663 xx Xy		25.4	25.4	320	383	541	663	856	1013	1210					
EHW 3747 xx Xy		28.6	28.6	361	431	610	747	964	1141	1364	185	27	50		
EKW 4109 xx Xy	2	35.0	35.0	527	629	890	1090	1407	1665	1990	279	32	65		
EKW 4139 xx Xy		38.1	38.1	671	803	1136	1391	1796	2125	2540					
EMW 4204 xx Xy	3	44.5	44.5	985	1178	1666	2040	2634	3116	3725	267	32	90		
EMW 4265 xx Xy		51.0	51.0	1280	1530	2164	2650	3421	4048	4838					
EPW 4412 xx Xy	4	63.5	63.5	1990	2379	3364	4120	5318	6293	7522	293	36	127		

Operation with pressure values and capacities shown on the grey background recommended for cast or machined metal nozzles only.

Coding

Extra wide passage spiral nozzles are often supplied in a special design, where the nozzle has no thread and it is assembled onto a nipple by means of a retaining nut. This design is the only one possible with Silicon Carbide nozzles, while it can be obtained as an option for nozzles cast in special alloys or stainless steel.

To identify such nozzles please note the following coding

EHW 3747 xx Xy

xx = Material code, see material table on the previous page

y = Connection code / B=Bspt male thread / N=NPT male thread / F= Locknut fitting

SILICON CARBIDE NOZZLES

We design and supply spiral nozzles made out several types of silicon carbide, for applications where fluids containing abrasive solid particles must be sprayed and long nozzle service life is required.

Please contact our offices for more detailed information.



Common Applications

Chemical processes

Fire fighting

Gas cooling

Gas & smoke scrubbers