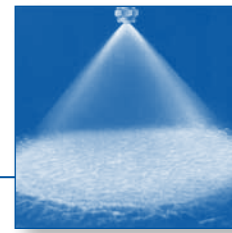




**Full cone nozzles**  
**Axial-flow**  
**Series 490 / 491**

**NEW Patent pending**



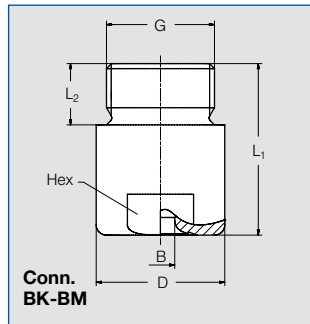
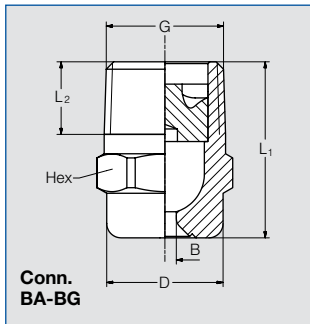
**Excellent uniform full cone distribution and thorough atomization. Non-clogging nozzle design. Stable spray angle and particularly even liquid distribution.**

**Applications:**

Cleaning and washing processes, surface spraying, container cleaning, foam precipitation, degassing of liquids.



**Series 490/491 represents a new generation within the axial-flow full cone nozzles product group. These nozzles were developed using state-of-the-art design and simulation methods (CFD).**



Conn.	Dimensions (in.)					Weight Brass
	G	L <sub>1</sub>	L <sub>2</sub>	D	Hex	
<b>BA</b>	1/8 NPT	0.71	0.26	0.39	7/16	.03
<b>BC</b>	1/4 NPT	0.87	0.39	0.51	9/16	.04
<b>BE</b>	3/8 NPT	0.96	0.39	0.63	11/16	.07
BE	3/8 NPT	1.18	0.39	0.63	11/16	.11
<b>BG</b>	1/2 NPT	1.28	0.51	0.83	14/16	.13
BG	1/2 NPT	1.71	0.51	0.83	14/16	.19
<b>BK</b>	3/4 NPT	1.65	0.59	1.26	1-1/16	.42
BK	3/4 NPT	1.97	0.59	1.26	1-1/16	.44
<b>BM</b>	1 NPT	2.20	0.67	1.57	1-7/16	.77

Subject to technical modification.  
 In a critical installation situation, please ask for the exact dimensions.

Full cone

Spray angle	Ordering no.								Orifice diam. (in.)	Free Passage (in.)	Flow Rate (Gallons Per Minute)									Spray Diam. D (in.) @ 30 psi		
	Type	Mat. no.		Connection							liters per minute									H=8"	H=20"	
		316 L 1Y	Brass 30	Male NPT							10 psi	20 psi	2 bar	Gallons Per Minute								
				1/8"	1/4"	3/8"	1/2"	3/4"						1"	30 psi	40 psi	60 psi	80 psi	100 psi			150 psi
60°	490.404	○	○	BA	-	-	-	-	-	.045	.045	.17	.23	1.00	.27	.30	.35	.40	.43	0.51	9	22
	490.444	○	○	BA	-	-	-	-	-	.049	.049	.22	.29	1.25	.33	.38	.44	.49	.54	0.64	9	22
	490.524	○	○	BA	-	-	-	-	-	.063	.063	.35	.46	2.00	.54	.60	.71	.79	.87	1.02	9	22
	490.644	○	○	-	BC	BE	-	-	-	.091	.091	.69	.91	4.00	1.07	1.20	1.41	1.59	1.73	2.04	9	22
	490.724	○	○	-	BC	BE	-	-	-	.112	.110	1.09	1.43	6.30	1.69	1.89	2.23	2.50	2.73	3.21	9	22
	490.804	○	○	-	-	BE	-	-	-	.146	.146	1.72	2.28	10.00	2.68	3.00	3.53	3.97	4.34	5.10	9	22
	490.844	○	○	-	-	-	BG	-	-	.159	.159	2.16	2.85	12.50	3.35	3.76	4.42	4.96	5.42	6.37	9	22
	490.884	○	○	-	-	-	BG	-	-	.183	.183	2.76	3.64	16.00	4.28	4.81	5.65	6.34	6.94	8.16	9	22
	490.964	○	○	-	-	-	-	BK	-	.228	.228	4.31	5.69	25.00	6.70	7.51	8.83	9.91	10.84	12.74	9	22
491.084	○	○	-	-	-	-	-	BM	.321	.321	8.63	11.38	50.00	13.39	15.02	17.67	19.82	21.67	25.49	9	22	
90°	490.406	○	○	BA	-	-	-	-	-	.047	.047	.17	.23	1.00	.27	.30	.35	.40	.43	.51	15	34
	490.486	○	○	BA	-	-	-	-	-	.057	.057	.28	.36	1.60	.43	.48	.57	.63	.69	.82	15	34
	490.526	○	○	BA	-	-	-	-	-	.067	.067	.35	.46	2.00	.54	.60	.71	.79	.87	1.02	15	34
	490.606	○	○	BA	-	-	-	-	-	.081	.081	.54	.72	3.15	.84	.95	1.11	1.25	1.37	1.61	15	34
	490.646	○	○	-	BC	-	-	-	-	.094	.094	.69	.91	4.00	1.07	1.20	1.41	1.59	1.73	2.04	15	38
	490.726	○	○	-	BC	BE	-	-	-	.126	.110	1.09	1.43	6.30	1.69	1.89	2.23	2.50	2.73	3.21	15	38
	490.806	○	○	-	-	BE	-	-	-	.154	.154	1.72	2.28	10.00	2.68	3.00	3.53	3.97	4.34	5.10	15	38
	490.846	○	○	-	-	BE	-	-	-	.183	.157	2.16	2.85	12.50	3.35	3.76	4.42	4.96	5.42	6.37	15	38
	490.886	○	○	-	-	-	BG	-	-	.215	.177	2.76	3.64	16.00	4.28	4.81	5.65	6.34	6.94	8.16	15	38
	490.926	○	○	-	-	-	BG	-	-	.232	.177	3.45	4.56	20.00	5.36	6.01	7.07	7.93	8.67	10.20	15	38
	490.966	○	○	-	-	-	BG	-	-	.258	.191	4.31	5.69	25.00	6.70	7.51	8.83	9.91	10.84	12.74	15	38
	491.086	○	○	-	-	-	-	BM	-	.372	.285	8.63	11.38	50.00	13.39	15.02	17.67	19.82	21.67	25.49	15	38

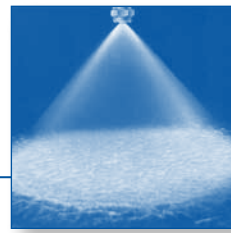
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# Full cone nozzles

## Axial-flow

### Series 490 / 491



Spray angle	Ordering no.									Orifice diam. (in.)	Free Passage (in.)	Flow Rate (Gallons Per Minute)										Spray Diam. D (in.) @ 30 psi	
	Type	Mat. no.		Connection								10 psi	20 psi	liters per minute 2 bar	30 psi	40 psi	60 psi	80 psi	100 psi	150 psi	H=8"	H=20"	
		316 L 1Y	Brass 30	Male NPT																			
				1/8"	1/4"	3/8"	1/2"	3/4"	1"														
120°	490. 368	○	○	BA	-	-	-	-	-	.033	.026	.11	.14	.63	.17	.19	.22	.25	.27	.32	27	48	
	490. 408	○	○	BA	-	-	-	-	-	.047	.047	.17	.23	1.00	.27	.30	.35	.40	.43	.51	27	48	
	490. 488	○	○	BA	-	-	-	-	-	.057	.057	.28	.36	1.60	.43	.48	.57	.63	.69	.82	27	48	
	490. 568	○	○	BA	-	-	-	-	-	.075	.075	.43	.57	2.50	.67	.75	.88	.99	1.08	1.27	27	48	
	490. 648	○	○	-	BC	BE	-	-	-	.094	.094	.69	.91	4.00	1.07	1.20	1.41	1.59	1.73	2.04	27	52	
	490. 728	○	○	-	BC	BE	-	-	-	.126	.110	1.09	1.43	6.30	1.69	1.89	2.23	2.50	2.73	3.21	27	52	
	490. 748	○	-	-	-	BE	-	-	-	.126	.126	1.23	1.62	7.10	1.90	2.13	2.51	2.82	3.08	3.62	27	52	
	490. 808	○	○	-	-	BE	-	-	-	.154	.154	1.72	2.28	10.00	2.68	3.00	3.53	3.97	4.34	5.10	27	52	
	490. 848	○	○	-	-	BE	-	-	-	.185	.157	2.16	2.85	12.50	3.35	3.76	4.42	4.96	5.42	6.37	27	52	
	490. 928	○	○	-	-	-	BG	-	-	.228	.187	3.45	4.56	20.00	5.36	6.01	7.07	7.93	8.67	10.20	27	52	
	490. 968	○	○	-	-	-	BG	BK	-	.262	.191	4.31	5.69	25.00	6.70	7.51	8.83	9.91	10.84	12.74	27	52	
	491. 048	○	○	-	-	-	-	BK	-	.362	.230	6.90	9.11	40.00	10.71	12.02	14.14	15.86	17.34	20.39	27	52	
	491. 148	○	-	-	-	-	-	-	BM	.449	.301	12.25	16.17	71.00	19.01	21.33	25.09	28.15	30.78	36.20	27	52	

**Example**    Type    +    Material no.    +    Conn.    =    Ordering no.  
**for ordering:** 490. 368 + 1Y                    +    BA                    =    490. 368. 1Y. BA

Full cone

Conversion formula for the above series:  $V_2 = V_1 * \left(\frac{P_2}{P_1}\right)^{0.4}$   
 (≤150 psi) (See page 12 for symbol definitions.)

