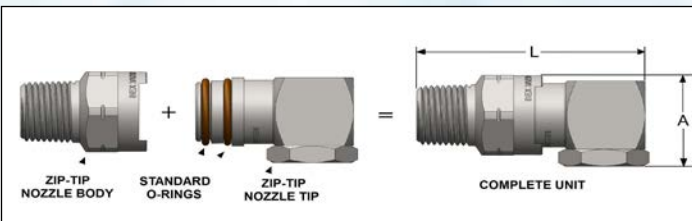
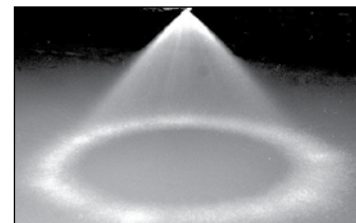
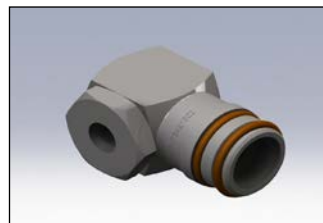


NOZZLE NPT PIPE SIZE	Length L (in)	Dim. A (in)
1/8"ZH	2.11	1.48
1/4"ZH	2.21	1.60
3/8"ZH	2.24	1.65
1/2"ZH	2.31	1.80
1/2"ZLH	2.96	1.71
3/4"ZLH	3.04	1.86



ZIP-TIP NOZZLE INSTALLATION & REMOVAL

- NO TOOLS REQUIRED for ZIP-TIP nozzle tip installation or removal
- POSITIVE ALIGNMENT of spray pattern
- "Light-lock" feature allows for easy removal
- Seals located on and removed with nozzle tip for easy flushing



SPRAY CHARACTERISTICS:

A hollow cone spray pattern, emerging at right angles to the centerline of the pipe connection. The standard included angle of the spray cone is 70° at 10 p.s.i. At low pressures hollow cone nozzles produce medium size, uniform droplets. At higher pressures finer droplets are produced.

CONSTRUCTION:

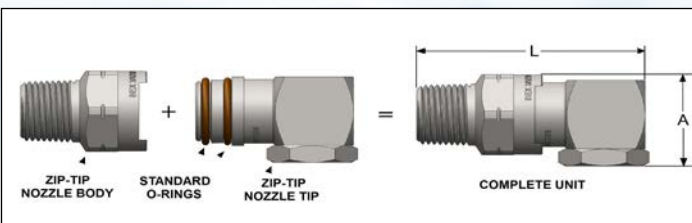
The tip models listed are machined from bar stock and are one piece construction. Standard materials are brass, 303 stainless steel and 316 stainless steel. All bodies are available in either NPT or BSPT threads.

TYPICAL APPLICATIONS:

- Air and Gas Washing
- Aerating, Rinsing and Humidifying
- Industrial Washers and Spray Ponds
- Cooling Tunnels
- Roof Cooling
- Degreasing
- Dust Suppression
- Metal Treatment

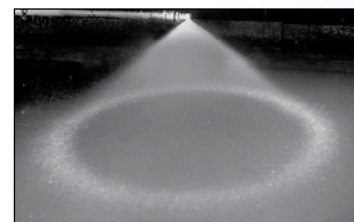
Model		Max. Free Passage (in)	CAPACITY AT VARIOUS PRESSURES (USGPM)											SPRAY ANGLE @ (degrees)			
ZH Model	ZLH Model		3 psi	5 psi	7 psi	10 psi	15 psi	20 psi	30 psi	40 psi	60 psi	80 psi	100 psi	10 psi	20 psi	40 psi	80 psi
ZH0.5		0.028	0.03	0.04	0.04	0.05	0.06	0.07	0.09	0.10	0.12	0.14	0.16	--	--	40	45
ZH1		0.060	0.06	0.07	0.08	0.10	0.12	0.14	0.17	0.20	0.25	0.28	0.32	--	61	74	69
ZH2		0.085	0.11	0.14	0.17	0.20	0.25	0.28	0.35	0.40	0.49	0.57	0.63	70	75	83	85
ZH3		0.111	0.16	0.21	0.25	0.30	0.37	0.42	0.52	0.60	0.73	0.85	0.95	70	70	72	74
ZH5		0.136	0.27	0.35	0.42	0.50	0.61	0.71	0.87	1.00	1.22	1.41	1.58	70	77	80	83
ZH7.5		0.166	0.41	0.53	0.63	0.75	0.92	1.06	1.30	1.50	1.84	2.12	2.37	70	70	74	75
ZH10		0.170	0.55	0.71	0.84	1.00	1.22	1.41	1.73	2.00	2.45	2.83	3.2	70	74	76	80
ZH12.5		0.177	0.68	0.88	1.05	1.25	1.53	1.77	2.17	2.50	3.06	3.5	4.0	70	82	83	83
ZH15		0.213	0.82	1.06	1.26	1.50	1.84	2.12	2.60	3.00	3.7	4.2	4.7	70	73	75	75
ZH20		0.250	1.10	1.41	1.67	2.00	2.45	2.83	3.5	4.0	4.9	5.7	6.3	70	73	75	75
ZH25		0.279	1.37	1.77	2.09	2.50	3.06	3.5	4.3	5.0	6.1	7.1	7.9	70	72	73	73
ZH30		0.292	16.4	21.2	25.1	30.0	37	42	52	60	73	85	95	70	70	73	72
	ZLH40	0.369	21.9	28.3	33	40	49	57	69	80	98	113	126	70	75	75	75
	ZLH50	0.393	2.74	3.5	4.2	5.0	6.1	7.1	8.7	10.0	12.2	14.1	15.8	70	70	71	73
	ZLH60	0.421	3.3	4.2	5.0	6.0	7.3	8.5	10.4	12.0	14.7	17.0	19.0	70	70	71	71
	ZLH70	0.469	3.8	4.9	5.9	7.0	8.6	9.9	12.1	14.0	17.1	19.8	22.1	70	74	76	76
	ZLH80	0.484	4.4	5.7	6.7	8.0	9.8	11.3	13.9	16.0	19.6	22.6	25.3	70	73	75	76
	ZLH90	0.500	4.9	6.4	7.5	9.0	11.0	12.7	15.6	18.0	22.0	25.5	28.5	70	70	71	73
	ZLH100	0.507	5.5	7.1	8.4	10.0	12.2	14.1	17.3	20.0	24.5	28.3	32	70	73	76	78
	ZLH110	0.575	6.0	7.8	9.2	11.0	13.5	15.6	19.1	22.0	26.9	31.1	35	70	72	75	72
	ZLH120	0.568	6.6	8.5	10.0	12.0	14.7	17.0	20.8	24.0	29.4	34	38	70	70	71	71

NOZZLE NPT PIPE SIZE	Length L (in)	Dim. A (in)
1/8"ZHW	2.11	1.48
1/4"ZHW	2.21	1.60
3/8"ZHW	2.24	1.65
1/2"ZHW	2.31	1.80
1/2"ZLHW	2.96	1.71
3/4"ZLHW	3.04	1.86



ZIP-TIP NOZZLE INSTALLATION & REMOVAL

- NO TOOLS REQUIRED for ZIP-TIP nozzle tip installation or removal
- POSITIVE ALIGNMENT of spray pattern
- "Light-lock" feature allows for easy removal
- Seals located on and removed with nozzle tip for easy flushing



SPRAY CHARACTERISTICS:

A hollow cone wide angle spray pattern, emerging at right angles to the centerline of the pipe connection. The standard included angle of the spray cone is 70° at 10 p.s.i. At low pressures hollow cone nozzles produce medium size, uniform droplets. At higher pressures finer droplets are produced.

CONSTRUCTION:

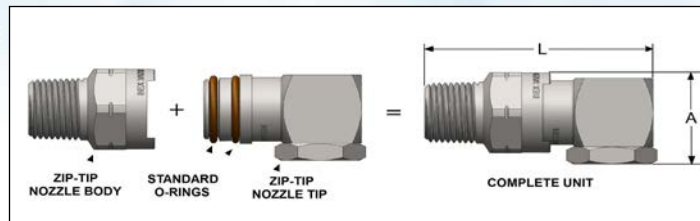
The tip models listed are machined from bar stock and are of two piece construction. Standard materials are brass, mild steel, 303 stainless steel and 316 stainless steel. All bodies are available in either NPT or BSPT threads.

TYPICAL APPLICATIONS:

- Air and Gas Washing
- Aerating, Rinsing and Humidifying
- Industrial Washers and Spray Ponds
- Cooling Tunnels
- Roof Cooling
- Degreasing
- Dust Suppression
- Metal Treatment

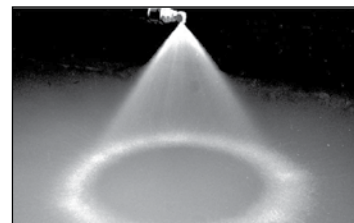
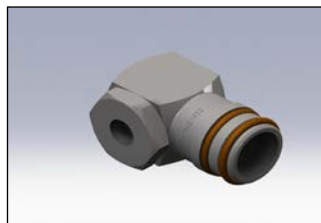
Model		Max. Free Passage (in)	CAPACITY AT VARIOUS PRESSURES (USGPM)											SPRAY ANGLE @ (degrees)			
ZHW Model	ZLHW Model		3 psi	5 psi	7 psi	10 psi	15 psi	20 psi	30 psi	40 psi	60 psi	80 psi	100 psi	10 psi	20 psi	40 psi	80 psi
ZH1W		0.055	0.03	0.07	0.08	0.10	0.12	0.14	0.17	0.20	0.25	0.28	0.32	120	110	102	90
ZH2W		0.077	0.06	0.14	0.17	0.20	0.25	0.28	0.35	0.40	0.49	0.57	0.63	120	110	105	92
ZH3W		0.093	0.11	0.21	0.25	0.30	0.37	0.42	0.52	0.60	0.73	0.85	0.95	120	114	104	90
ZH5W		0.109	0.16	0.35	0.42	0.50	0.61	0.71	0.87	1.00	1.22	1.41	1.58	120	113	107	98
ZH7.5W		0.158	0.27	0.53	0.63	0.75	0.92	1.06	1.30	1.50	1.84	2.12	2.37	120	115	110	92
ZH10W		0.170	0.41	0.71	0.84	1.00	1.22	1.41	1.73	2.00	2.45	2.83	3.2	120	115	110	93
ZH12.5W		0.188	0.55	0.88	1.05	1.25	1.53	1.77	2.17	2.50	3.06	3.5	4.0	120	118	110	94
ZH15W		0.201	0.06	1.06	1.26	1.50	1.84	2.12	2.60	3.00	3.7	4.2	4.7	120	115	108	92
ZH20W		0.234	0.11	1.41	1.67	2.00	2.45	2.83	3.5	4.0	4.9	5.7	6.3	120	118	116	110
ZH25W		0.265	0.16	1.77	2.09	2.50	3.06	3.5	4.3	5.0	6.1	7.1	7.9	120	117	115	110
ZH30W		0.280	0.27	2.12	2.51	3.00	3.7	4.2	5.2	6.0	7.3	8.5	9.5	120	115	110	102
	ZLH50W	0.358	0.41	3.5	4.2	5.0	6.1	7.1	8.7	10.0	12.2	14.1	15.8	120	115	108	103
	ZLH80W	0.468	0.55	5.7	6.7	8.0	9.8	11.3	13.9	16.0	19.6	22.6	25.3	120	117	110	103

NOZZLE NPT PIPE SIZE	Length L (in)	Dim. A (in)
1/8"ZH	2.11	1.48
1/4"ZH	2.21	1.60
3/8"ZH	2.24	1.65
1/2"ZH	2.31	1.80
1/2"ZLH	2.96	1.71
3/4"ZLH	3.04	1.86



ZIP-TIP NOZZLE INSTALLATION & REMOVAL

- NO TOOLS REQUIRED for ZIP-TIP nozzle tip installation or removal
- POSITIVE ALIGNMENT of spray pattern
- "Light-lock" feature allows for easy removal
- Seals located on and removed with nozzle tip for easy flushing



SPRAY CHARACTERISTICS:

ZF-Series spray nozzles produce a flat, fan-shaped spray pattern with spray angles available from 15° to 110° measured at 40 psi. Spray angles generally increase with pressure, as shown in the capacity table.

Spray density tapers off toward the outside of these sprays, to permit overlapping of spray patterns while maintaining uniform spray density.

CONSTRUCTION:

The tip models listed are machined from bar stock and are one piece construction. Standard materials are brass, mild steel, 303 stainless steel and 316 stainless steel. Some models are also stocked in Carpenter 20®, PVC, CPVC and polypropylene. All bodies are available in either NPT or BSPT threads.

Please see page 61 for molded plastic models.

TYPICAL APPLICATIONS:

Suitable for a variety of washing and spraying applications.

- Parts Cleaning
- Metal Washing
- Foam Control
- Asphalt Spraying
- Gravel Washing
- Vehicle Washing
- Fertilizer Spraying
- Dishwashers

Model	Orifice Diameter (in)		CAPACITY AT VARIOUS PRESSURES (USGPM)										SPRAY ANGLE @ (degrees)		
	Body	Cap	5 psi	7 psi	10 psi	15 psi	20 psi	30 psi	40 psi	60 psi	80 psi	100 psi	10 psi	15 psi	30 psi
ZPH23	0.220	0.312	1.63	1.92	2.30	2.82	3.3	4.0	4.6	5.6	6.5	7.3	45	53	60
ZPH28	0.231	0.312	1.98	2.34	2.80	3.4	4.0	4.8	5.6	6.9	7.9	8.9	40	43	48
ZPH51	0.344	0.375	3.5	4.2	5.0	6.1	7.1	8.7	10.0	12.2	14.1	15.8	40	50	50
ZPH53	0.375	0.375	3.5	4.2	5.0	6.1	7.1	8.7	10.0	12.2	14.1	15.8	70	70	70