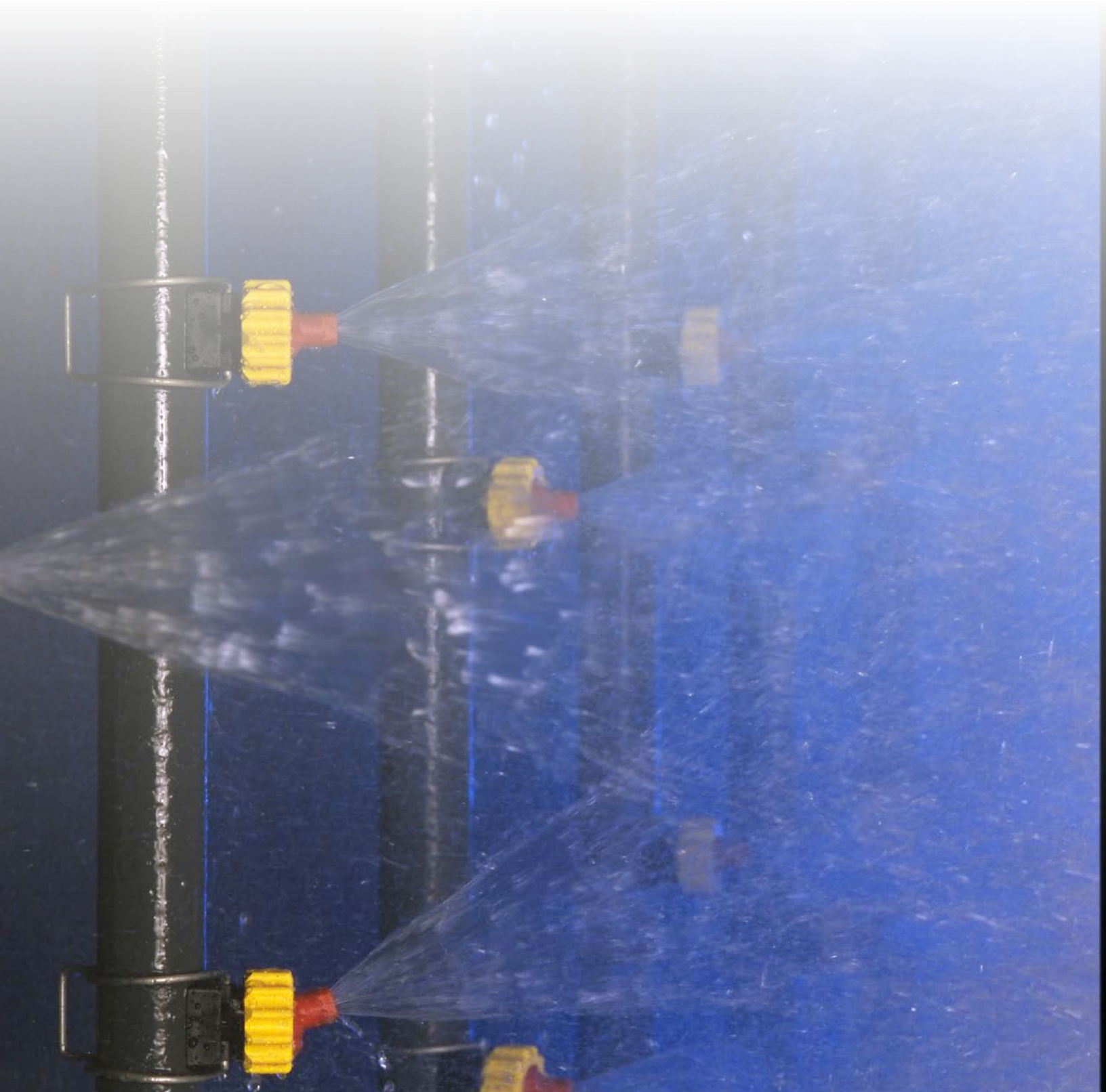
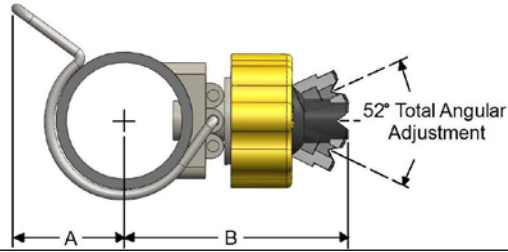




K-BALL® SERIES SPRAY NOZZLES



**SPRAY CHARACTERISTICS:**

These nozzles simply clip over a pre-drilled pipe (9/16" dia. hole) and are available with a variety of spray balls, in various spray patterns, flow rates and spray angles.

CONSTRUCTION:

Made of corrosion-resistant plastic and stainless steel. Heavy-duty spring clip good to 100 p.s.i. at 175° F. A 316SS clip is also available, if required.

DIMENSIONS

PIPE SIZE	Dim. A	Dim. B
1"	1 ³ / ₄ (45 mm)	2 ⁷ / ₈ (73 mm)
1 ¹ / ₄ "	2 (51 mm)	3 (77 mm)
1 ¹ / ₂ "	2 ¹ / ₈ (54 mm)	3 ¹ / ₈ (80 mm)
2"	2 ⁷ / ₈ (61 mm)	3 ¹ / ₂ (89 mm)

TYPICAL APPLICATIONS:

- Parts Cleaning
- Pretreatment
- Spray Washing & Rinsing

Double clip model also available.

THE BEX "FINGER" SYSTEM

The BEX spring clamp is the heaviest and most durable in the industry. It provides long service life at pressure up to 100 psi. All bodies are also designed for the installation of two clips. Clips are available in both 302SS and 316SS.

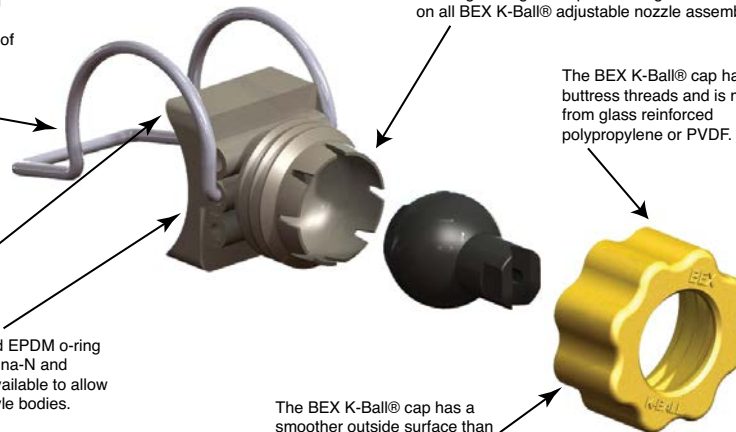
Square bodies hold the assembly securely in place and are made from tough glass filled polypropylene which is good up to 175° F. Bodies are also available in PVDF.

The body accepts an industry standard EPDM o-ring (not shown) and is also available in Buna-N and Viton®. Conversion o-rings are also available to allow the body to fit drilled holes for older style bodies.

The unique BEX "Finger" system holds the ball securely in alignment to prevent ball movement while tightening the cap. The "Finger" is available on all BEX K-Ball® adjustable nozzle assemblies.

The BEX K-Ball® cap has strong buttress threads and is made from glass reinforced polypropylene or PVDF.

The BEX K-Ball® cap has a smoother outside surface than other models to improve ease of installation.

**HOW TO ORDER COMPLETE K-BALL ASSEMBLIES**

Use the correct body part number (from the parts listed in BOLD at the right), followed by the model number for the nozzle ball (see pages 65-67).

Example:

BF5070 nozzle balls are needed to fit onto a 1-1/4" pipe. Accurate alignment of the nozzles is critical, so the 1-1/4" body with "fingers" will be used. The correct PART number for this K-Ball nozzle assembly is 1.2KBF5070.

K-BALL BODY COLORS AND PART NUMBERS

Pipe Sizes	1"	1-1/4"	1-1/2"	2"
Standard Body	1K (white)	1.2K (grey)	1.5K (black)	2K (tan)
Body with Fingers	1KF (green)	1.2KF (yellow)	1.5KF (red)	2KF (blue)
Spring Clip	1KCL	1.2KCL	1.5KCL	2KCL
O-ring	KOR	KOR	KOR	KOR
K-Ball Cap	KCAP	KCAP	KCAP	KCAP

SPRAY BALL: CHOOSE FROM THE TABLES ON PAGES 59 AND 60.

BF FLAT-V SPRAY NOZZLE BALLS (for 1", 1-1/4", 1-1/2" and 2" pipe)

SPRAY CHARACTERISTICS:

Spray is fan-shaped with spray angles of 15° to 110°. Spray density tapers off toward the outside to permit overlapping of the spray patterns while maintaining uniform spray density.

COLOR CODING:

The more popular models of the flat-V spray nozzle balls are color coded by flowrate for easier identification.



Model	Tip Color	Equiv. Orifice Diam. (in)	CAPACITY AT VARIOUS PRESSURES (USGPM)												SPRAY ANGLE @	
			5 psi	7 psi	10 psi	15 psi	20 psi	30 psi	40 psi	50 psi	60 psi	80 psi	100 psi	300 psi	20 psi	40 psi
BF11060	Blue	0.183	2.12	2.51	3.00	3.7	4.2	4.7	5.2	6.0	6.7	8.5	9.5	11.6	107°	110°

Model	Tip Color	Equiv. Orifice Diam. (in)	CAPACITY AT VARIOUS PRESSURES (USGPM)												SPRAY ANGLE @	
			5 psi	7 psi	10 psi	15 psi	20 psi	25 psi	30 psi	40 psi	50 psi	80 psi	100 psi	150 psi	20 psi	40 psi
BF9530	Purple	0.129	1.06	1.26	1.50	1.84	2.12	2.37	2.60	3.00	3.4	4.2	4.7	5.8	63°	95°
BF9540	Green	0.149	1.41	1.67	2.00	2.45	2.83	3.2	3.5	4.0	4.5	5.7	6.3	7.7	63°	95°
BF9550	Yellow	0.167	1.77	2.09	2.50	3.06	3.5	4.0	4.3	5.0	5.6	7.1	7.9	9.7	63°	95°
BF9560	Blue	0.183	2.12	2.51	3.00	3.7	4.2	4.7	5.2	6.0	6.7	8.5	9.5	11.6	63°	95°

Model	Tip Color	Equiv. Orifice Diam. (in)	CAPACITY AT VARIOUS PRESSURES (USGPM)												SPRAY ANGLE @	
			5 psi	7 psi	10 psi	15 psi	20 psi	25 psi	30 psi	40 psi	50 psi	80 psi	100 psi	150 psi	20 psi	40 psi
BF8010	White	0.238	0.35	0.42	0.50	0.61	0.71	0.79	0.87	1.00	1.12	1.41	1.58	1.94	85°	80°
BF8020	Lt. Blue	0.105	0.71	0.84	1.00	1.22	1.41	1.58	1.73	2.00	2.24	2.83	3.2	3.9	63°	80°
BF8030	Purple	0.129	1.06	1.26	1.50	1.84	2.12	2.37	2.60	3.00	3.4	4.2	4.7	5.8	63°	80°
BF8040	Green	0.149	1.41	1.67	2.00	2.45	2.83	3.2	3.5	4.0	4.5	5.7	6.3	7.7	76°	80°
BF8050	Yellow	0.167	1.77	2.09	2.50	3.06	3.5	4.0	4.3	5.0	5.6	7.1	7.9	9.7	77°	80°
BF8060	Blue	0.183	2.12	2.51	3.00	3.7	4.2	4.7	5.2	6.0	6.7	8.5	9.5	11.6	77°	80°
BF8070	Red	0.197	2.47	2.93	3.5	4.3	4.9	5.5	6.1	7.0	7.8	9.9	11.1	13.6	78°	80°
BF80100	Brown	0.238	3.5	4.2	5.0	6.1	7.1	7.9	8.7	10.0	11.2	14.1	15.8	19.4	75°	80°

Model	Tip Color	Equiv. Orifice Diam. (in)	CAPACITY AT VARIOUS PRESSURES (USGPM)												SPRAY ANGLE @	
			5 psi	7 psi	10 psi	15 psi	20 psi	25 psi	30 psi	40 psi	50 psi	80 psi	100 psi	150 psi	20 psi	40 psi
BF6520	Lt. Blue	0.105	0.71	0.84	1.00	1.22	1.41	1.58	1.73	2.00	2.24	2.83	3.2	3.9	63°	65°
BF6530	Purple	0.129	1.06	1.26	1.50	1.84	2.12	2.37	2.60	3.00	3.4	4.2	4.7	5.8	63°	65°
BF6540	Green	0.149	1.41	1.67	2.00	2.45	2.83	3.2	3.5	4.0	4.5	5.7	6.3	7.7	63°	65°
BF6550	Yellow	0.167	1.77	2.09	2.50	3.06	3.5	4.0	4.3	5.0	5.6	7.1	7.9	9.7	63°	65°
BF6560	Blue	0.183	2.12	2.51	3.00	3.7	4.2	4.7	5.2	6.0	6.7	8.5	9.5	11.6	63°	65°
BF6570	Red	0.197	2.47	2.93	3.5	4.3	4.9	5.5	6.1	7.0	7.8	9.9	11.1	13.6	63°	65°
BF65100	Brown	0.238	3.5	4.2	5.0	6.1	7.1	7.9	8.7	10.0	11.2	14.1	15.8	19.4	58°	65°

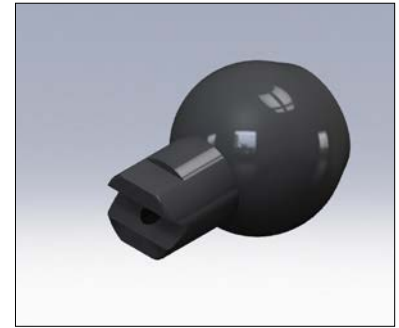
BF FLAT-V SPRAY NOZZLE BALLS (for 1", 1-1/4", 1-1/2" and 2" pipe)

SPRAY CHARACTERISTICS:

Spray is fan-shaped with spray angles of 15° to 110°. Spray density tapers off toward the outside to permit overlapping of the spray patterns while maintaining uniform spray density.

COLOR CODING:

The more popular models of the flat-V spray nozzle balls are color coded by flowrate for easier identification.



Model	Tip Color	Equiv. Orifice Diam. (in)	CAPACITY AT VARIOUS PRESSURES (USGPM)												SPRAY ANGLE @	
			5 psi	7 psi	10 psi	15 psi	20 psi	25 psi	30 psi	40 psi	50 psi	80 psi	100 psi	150 psi	20 psi	40 psi
BF5020	Lt. Blue	0.105	0.71	0.84	1.00	1.22	1.41	1.58	1.73	2.00	2.24	2.83	3.2	3.9	63°	50°
BF5030	Purple	0.129	1.06	1.26	1.50	1.84	2.12	2.37	2.60	3.00	3.4	4.2	4.7	5.8	63°	50°
BF5040	Green	0.149	1.41	1.67	2.00	2.45	2.83	3.2	3.5	4.0	4.5	5.7	6.3	7.7	43°	50°
BF5050	Yellow	0.167	1.77	2.09	2.50	3.06	3.5	4.0	4.3	5.0	5.6	7.1	7.9	9.7	43°	50°
BF5060	Blue	0.183	2.12	2.51	3.00	3.7	4.2	4.7	5.2	6.0	6.7	8.5	9.5	11.6	43°	50°
BF5070	Red	0.197	2.47	2.93	3.5	4.3	4.9	5.5	6.1	7.0	7.8	9.9	11.1	13.6	43°	50°
BF50100	Brown	0.238	3.5	4.2	5.0	6.1	7.1	7.9	8.7	10.0	11.2	14.1	15.8	19.4	44°	50°

Model	Tip Color	Equiv. Orifice Diam. (in)	CAPACITY AT VARIOUS PRESSURES (USGPM)												SPRAY ANGLE @	
			5 psi	7 psi	10 psi	15 psi	20 psi	25 psi	30 psi	40 psi	50 psi	80 psi	100 psi	150 psi	20 psi	40 psi
BF4040	Green	0.149	1.41	1.67	2.00	2.45	2.83	3.2	3.5	4.0	4.5	5.7	6.3	7.7	33°	40°
BF4050	Yellow	0.167	1.77	2.09	2.50	3.06	3.5	4.0	4.3	5.0	5.6	7.1	7.9	9.7	35°	40°
BF4060	Blue	0.183	2.12	2.51	3.00	3.7	4.2	4.7	5.2	6.0	6.7	8.5	9.5	11.6	37°	40°
BF4070	Red	0.197	2.47	2.93	3.5	4.3	4.9	5.5	6.1	7.0	7.8	9.9	11.1	13.6	35°	40°
BF40100	Brown	0.238	3.5	4.2	5.0	6.1	7.1	7.9	8.7	10.0	11.2	14.1	15.8	19.4	33°	40°

Model	Tip Color	Equiv. Orifice Diam. (in)	CAPACITY AT VARIOUS PRESSURES (USGPM)												SPRAY ANGLE @	
			5 psi	7 psi	10 psi	15 psi	20 psi	25 psi	30 psi	40 psi	50 psi	80 psi	100 psi	150 psi	20 psi	40 psi
BF2540	Green	0.149	1.41	1.67	2.00	2.45	2.83	3.2	3.5	4.0	4.5	5.7	6.3	7.7	22°	25°
BF2550	Yellow	0.167	1.77	2.09	2.50	3.06	3.5	4.0	4.3	5.0	5.6	7.1	7.9	9.7	20°	25°
BF2560	Blue	0.183	2.12	2.51	3.00	3.7	4.2	4.7	5.2	6.0	6.7	8.5	9.5	11.6	18°	25°
BF2570	Red	0.197	2.47	2.93	3.5	4.3	4.9	5.5	6.1	7.0	7.8	9.9	11.1	13.6	19°	25°
BF25100	Brown	0.236	3.5	4.2	5.0	6.1	7.1	7.9	8.7	10.0	11.2	14.1	15.8	19.4	21°	25°

Model	Tip Color	Equiv. Orifice Diam. (in)	CAPACITY AT VARIOUS PRESSURES (USGPM)												SPRAY ANGLE @	
			5 psi	7 psi	10 psi	15 psi	20 psi	25 psi	30 psi	40 psi	50 psi	80 psi	100 psi	150 psi	20 psi	40 psi
BF15100	Brown	0.236	3.5	4.2	5.0	6.1	7.1	7.9	8.7	10.0	11.2	14.1	15.8	19.4	13°	15°
BF15120	Black	0.258	4.2	5.0	6.0	7.3	8.5	9.5	10.4	12.0	13.4	17.0	19.0	23.2	12°	15°
BF15150	Black	0.289	5.3	6.3	7.5	9.2	10.6	11.9	13.0	15.0	16.8	21.2	23.7	29.0	12°	15°

BFL FLOODING SPRAY NOZZLE BALLS

(for 1", 1-1/4", 1-1/2" and 2" pipe)



SPRAY CHARACTERISTICS:

A wide, flat shaped spray with low impact. The spray is deflected 75° from the centerline of the nozzle, as shown.

TYPICAL APPLICATIONS:

Flooding nozzles are often used at the beginning and end of phosphate stages, to prevent mist carry over. They can also be used for "wetting" surfaces during long drain stages.

Model	Tip Color	Equiv. Orifice Diam. (in)	CAPACITY AT VARIOUS PRESSURES (USGPM)										SPRAY ANGLE @	
			5 psi	7 psi	10 psi	15 psi	20 psi	30 psi	40 psi	50 psi	100 psi	300 psi	20 psi	40 psi
BFL5	Grey	0.183	0.27	0.35	0.42	0.50	0.61	0.71	0.79	0.87	1.00	1.12	114°	130°
BFL10	Grey	0.075	0.55	0.71	0.84	1.00	1.22	1.41	1.58	1.73	2.00	2.24	134°	146°
BFL18	Grey	0.149	0.99	1.27	1.51	1.80	2.20	2.55	2.85	3.12	3.6	4.0	130°	142°
BFL24	Grey	0.167	1.31	1.70	2.01	2.40	2.94	3.4	3.8	4.2	4.8	5.4	121°	136°
BFL30	Grey	0.183	1.64	2.12	2.51	3.00	3.7	4.2	4.7	5.2	6.0	6.7	120°	133°
BFL40	Grey	0.218	2.19	2.83	3.3	4.0	4.9	5.7	6.3	6.9	8.0	8.9	130°	144°

BPH HOLLOW CONE PHOSPHATING NOZZLE BALLS

(for 1", 1-1/4", 1-1/2" and 2" pipe)



SPRAY CHARACTERISTICS:

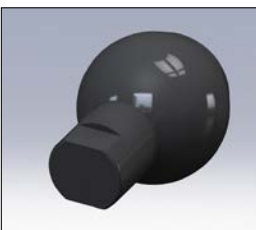
A hollow cone pattern with low impact. BPH nozzle balls are made of glass reinforced polypropylene. Available in three models.

TYPICAL APPLICATIONS:

Designed specifically for phosphate stages. This large droplet, low impact spray results in tighter and more consistent phosphate crystalline structure. It minimizes the misting of phosphate spray, thus reducing 'pre-coating', streaking, and carry over to adjacent stages.

Model	Tip Color	Maximum Free Passage (in)	CAPACITY AT VARIOUS PRESSURES (USGPM)										SPRAY ANGLE @			
			3 psi	5 psi	7 psi	10 psi	15 psi	20 psi	25 psi	30 psi	40 psi	5 psi	7 psi	10 psi	20 psi	
BPH28	White	0.191	1.53	1.98	2.34	2.80	3.4	4.0	4.4	4.8	5.6	44°	52°	53°	55°	
BPH51	Grey	0.280	2.74	3.5	4.2	5.0	6.1	7.1	7.9	8.7	10.0	37°	40°	42°	48°	
BPH53	Black	0.280	2.74	3.5	4.2	5.0	6.1	7.1	7.9	8.7	10.0	62°	70°	71°	73°	

K-PLUG SHUT-OFF NOZZLE BALL

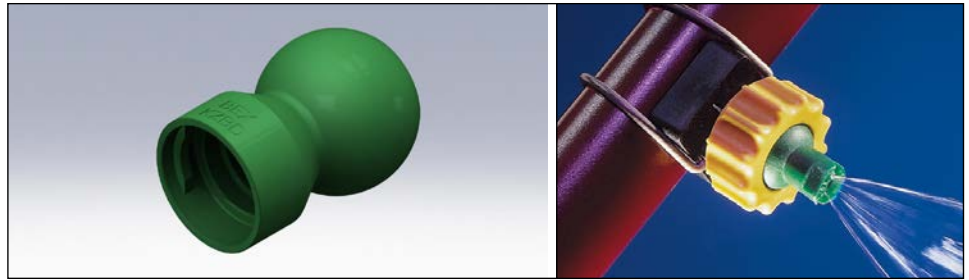


TYPICAL APPLICATIONS:

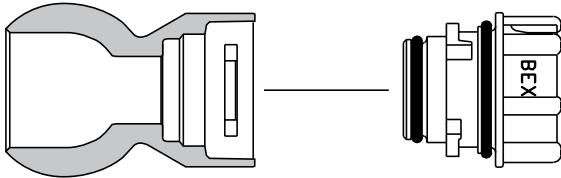
The K-PLUG nozzle ball is used in place of any other nozzle ball to completely shut off the flow through the nozzle.

Clip-on adapters

K-Ball®



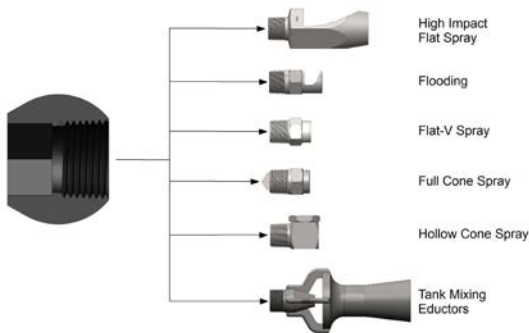
CLIP-ON ZIP-TIP® ADAPTERS



KZBD

Any plastic ZipTip®

THREADED BALLS (for K-Ball nozzle assemblies)



Ball has a hexagonal interior for easy holding!

TYPICAL APPLICATIONS:

Expand your range of nozzle choices by using threaded balls. Threaded balls are made of glass reinforced polypropylene, with 1/8", 1/4" and 3/8" NPT female threads. (BSPT also available)

MODEL	DESCRIPTION
1B	1/8" NPT Female thread
2B	1/4" NPT Female thread
3B	3/8" NPT Female thread
5B	1/2" NPT Female thread

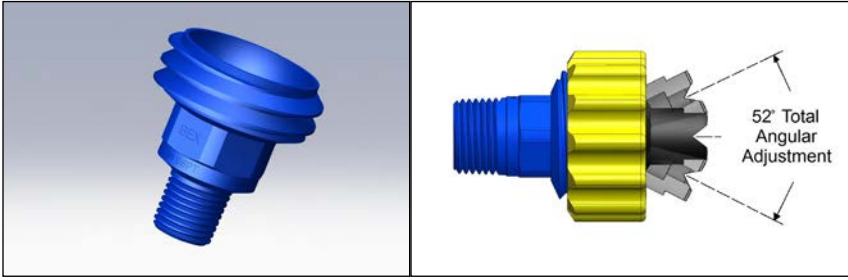
Please note: The 5B has an angular adjustment of only 34°.

CONVERSION O-RING

For installing BEX K-Ball clip-on nozzles into holes drilled to a 21/32 diameter.



Replaces the standard BEX O-Ring



The BEX threaded K-Ball® body provides the ability to adjust the direction of the spray pattern by simply twisting the K-Ball® cap, repositioning the nozzle and tightening the cap. The same 52° nozzle angle of adjustability exists in the threaded body as in the K-Ball®

clip-on body. This plastic threaded body is useful when a metal clip is undesirable or where space limitations prevent using a spring clip-on nozzle.

MODELS AVAILABLE:

MALE NPT THREAD	MODEL NUMBER	
	Without "Fingers"	With "Fingers"
1/4	1/4KBD	1/4KFBD
3/8	3/8KBD	3/8KFBD
1/2	1/2KBD	1/2KFBD

*BSPT also available



CLIP-ON NOZZLE THREADED ADAPTER (for 1", 1 1/4",

FEATURES:

This adapter allows for quick mounting and removal of threaded nozzles.

APPLICATIONS:

Useful to mount nozzles in a fixed position, where adjustability is not desired.

(Drill a 9/16" diameter hole)

ADAPTER THREAD	MODEL NUMBER			
	1" Pipe	1 1/4" Pipe	1 1/2" Pipe	2" Pipe
1/8 NPT Female	1K.1	1.2K.1	1.5K.1	2K.1
1/4 NPT Female	1K.2	1.2K.2	1.5K.2	2K.2
3/8 NPT Female	1K.3	1.2K.3	1.5K.3	2K.3

Double clip model also available.

*BSPT also available

