

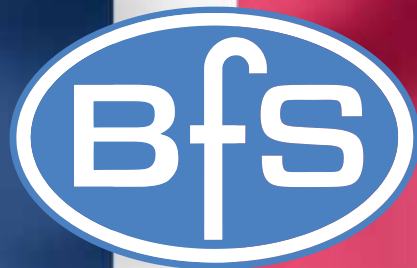


LOW DRIFT SPRAY
APPLICATION TECHNOLOGY

LIQUID FERTILISER
APPLICATION SPECIALISTS

LOW DRIFT NO DRIFT

www.bfs.uk.com



All BfS products are British through and through

From initial concept to prototype design, evaluation, manufacturing, testing and production, everything is based in the UK. We are the only UK based nozzle manufacturer, and we were the first to introduce Air Inclusion Technology to the UK market.

Our first low drift nozzle was the Billericay Air Bubble Jet. This set the standard for low drift and we were the first to register a 3 star rated LERAP nozzle.

Since then we have introduced several other "Firsts".

- **The first LERAP rated nozzles (BfS Air Bubble Jets) to appear on the CRD website in 1999**
- **The first adjustable bar (BfS Dribble Bar) for liquid fertiliser application**
- **The first variable rate bar (BfS AutoStreamer) for variable rate application of liquid fertilisers**
- **The first variable rate nozzle (BfS 5Star) for application of liquid fertilisers**
- **The first 3* LERAP rated Low Drift Nozzle (BfS PulZar) designed for Pulse Width Modulation Systems**
- **The first 4* LERAP rated 90% DRT nozzle (BfS ExRay XC)**
- **The first... watch this space!**

Contents:

Spray Technology

BfS Air Bubble Jets	4
BfS ExRay XC	6
BfS PulZar	8
BfS STS-80 (Narrow Angle Range)	10
Wide Range Nozzles	12
Fairway 90 Amenity Nozzle	14
Low Drift Knapsack Nozzle Pack	16
Agrotop Nozzles	18
BfS Angled Caps	20
Twin Caps	21
Nozzle Filters	21
Blanking Nozzle	21
Standard Nozzle Caps	21
BfS FlowCheck	22

Liquid Fertiliser Applicators

BfS AutoStreamer	23
BfS Dribble Bar II (Yellow Disc)	24
BfS 5 Star / 5 Star Plus	26
BfS Nova Liquid Fertiliser Application Cap	28

BfS Billericay Air Bubble Jets

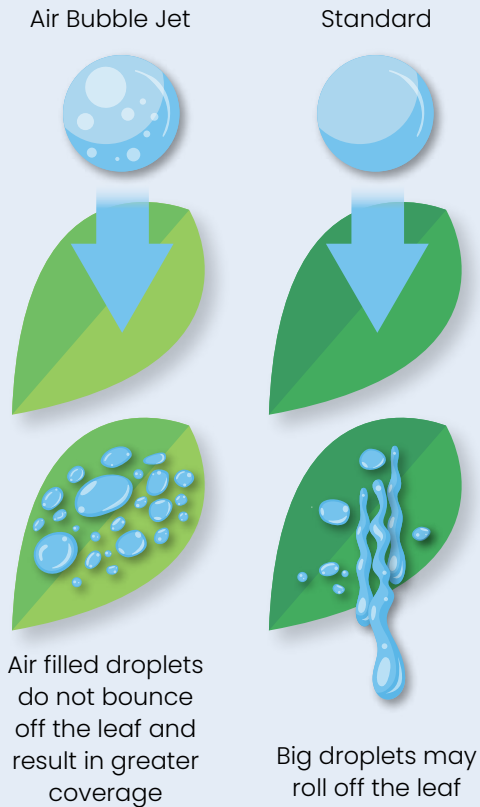
Billericay Air Bubble Jets are the internationally renowned, and industry's leading air induction nozzles, invented by Billericay Farm Services.

Manufactured in Britain, these precision made nozzles can be used on boom sprayers, quad bike sprayers, knapsack sprayers etc. The nozzles fit any standard 8mm cap (available separately and in all colours) and are ISO colour coded according to size. The fan angle will vary slightly depending on the operating pressure, but will be in the range 100 to 110 degrees.



Sizes	Part No.	Sizes	Part No.
01 Orange	NNB002991	035 Red Brown	NNB002992
015 Green	NNB003001	04 Red	NNB003004
02 Yellow	NNB003002	05 Brown	NNB003005
025 Lilac	NNB003000	06 Grey	NNB003006
03 Blue	NNB003003	08 White	NNB003008

EFFECT OF AIR INCLUSION ON LEAF COVERAGE



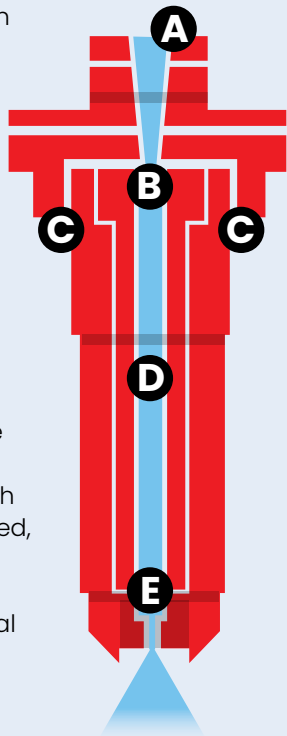
HOW DOES IT WORK?

The liquid being sprayed passes through a removable tapered nozzle **A** which accelerates the liquid and projects the flow into the tapered opening of the venturi **B**,

This creates a vacuum that causes air to be sucked in through the slots marked **C**.

The mixture of air and liquid is compressed as it passes through the mixing chamber **D** and is then sprayed through the fan nozzle **E**.

The BfS Air Bubble Jet ensures that spray contact with the leaf is improved, drift reduction is obtained and excellent chemical efficiency is achieved.



Air Bubble Jets Application Rate Chart

SIZE	NOZZLE PRESSURE (Bar)	FLOW (l/min)	SPRAY QUALITY	LITRES PER HECTARE Speed (kph) at 50cm nozzle spacing									★ LERAP Rating
				4	6	8	10	12	14	16	18	20	
ORANGE 01	1	0.23	XC	69	46	35	28	23	20	17	15	14	
	1.5	0.28	XC	85	57	42	34	28	24	21	19	17	
	2	0.33	VC	98	65	49	39	33	28	24	22	20	
	2.5	0.37	VC	110	73	55	44	37	31	27	24	22	
	3	0.40	C	120	80	60	48	40	34	30	27	24	
	3.5	0.43	C	130	86	65	52	43	37	32	29	26	
	4	0.46	C	139	92	69	55	46	40	35	31	28	
GREEN 015	4.5	0.49	C	147	98	73	59	49	42	37	33	29	
	1	0.35	XC	104	69	52	42	35	30	26	23	21	
	1.5	0.42	XC	127	85	64	51	42	36	32	28	25	
	2	0.49	XC	147	98	73	59	49	42	37	33	29	
	2.5	0.55	VC	164	110	82	66	55	47	41	37	33	
	3	0.60	VC	180	120	90	72	60	51	45	40	36	
	3.5	0.65	C	194	130	97	78	65	56	49	43	39	
YELLOW 02	4	0.69	C	208	139	104	83	69	59	52	46	42	★★ 
	4.5	0.73	C	220	147	110	88	73	63	55	49	44	
	1	0.47	XC	140	93	70	56	47	40	35	31	28	
	1.5	0.57	VC	171	114	86	69	57	49	43	38	34	
	2	0.66	C	198	132	99	79	66	57	50	44	40	
	2.5	0.74	C	221	148	111	89	74	63	55	49	44	
	3	0.81	C	242	162	121	97	81	69	61	54	48	
LILAC 025	3.5	0.87	C	262	175	131	105	87	75	65	58	52	★★★ 
	4	0.93	C	280	187	140	112	93	80	70	62	56	
	4.5	0.99	M	297	198	149	119	99	85	74	66	59	
	1	0.58	UC	174	116	87	70	58	50	43	39	35	
	1.5	0.71	XC	213	142	107	85	71	61	53	47	43	
	2	0.82	XC	246	164	123	98	82	70	62	55	49	
	2.5	0.92	XC	275	183	138	110	92	79	69	61	55	
BLUE 03	3	1.00	VC	301	201	151	121	100	86	75	67	60	★★★ 
	3.5	1.08	C	325	217	163	130	108	93	81	72	65	
	4	1.16	C	348	232	174	139	116	99	87	77	70	
	4.5	1.23	C	369	246	185	148	123	105	92	82	74	
	1	0.69	XC	208	139	104	83	69	59	52	46	42	
	1.5	0.85	XC	255	170	127	102	85	73	64	57	51	
	2	0.98	XC	294	196	147	118	98	84	74	65	59	
RED BROWN 035	2.5	1.10	VC	329	219	164	131	110	94	82	73	66	★★★ 
	3	1.20	VC	360	240	180	144	120	103	90	80	72	
	3.5	1.30	C	389	259	194	156	130	111	97	86	78	
	4	1.39	C	416	277	208	166	139	119	104	92	83	
	4.5	1.47	C	441	294	221	176	147	126	110	98	88	
	1	0.81	XC	242	161	121	97	81	69	60	54	48	
	1.5	0.99	XC	296	197	148	118	99	85	74	66	59	
RED 04	2	1.14	XC	342	228	171	137	114	98	86	76	68	★★★ 
	2.5	1.27	VC	382	255	191	153	127	109	96	85	76	
	3	1.40	VC	419	279	209	168	140	120	105	93	84	
	3.5	1.51	C	452	302	226	181	151	129	113	101	90	
	4	1.61	C	484	322	242	193	161	138	121	107	97	
	4.5	1.71	C	513	342	257	205	171	147	128	114	103	
	1	0.93	XC	278	185	139	111	93	79	69	62	56	
BROWN 05	1.5	1.13	XC	340	227	170	136	113	97	85	76	68	★★★ 
	2	1.31	XC	393	262	197	157	131	112	98	87	79	
	2.5	1.46	VC	439	293	220	176	146	126	110	98	88	
	3	1.60	C	481	321	241	193	160	138	120	107	96	
	3.5	1.73	C	520	347	260	208	173	149	130	116	104	
	4	1.85	C	556	371	278	222	185	159	139	124	111	
	4.5	1.97	C	590	393	295	236	197	168	147	131	118	
GREY 06	1	1.15	XC	346	231	173	138	115	99	86	77	69	★★★ 
	1.5	1.41	XC	423	282	212	169	141	121	106	94	85	
	2	1.63	XC	489	326	245	196	163	140	122	109	98	
	2.5	1.82	VC	547	364	273	219	182	156	137	121	109	
	3	2.00	C	599	399	299	240	200	171	150	133	120	
	3.5	2.16	C	647	431	323	259	216	185	162	144	129	
	4	2.31	C	692	461	346	277	231	198	173	154	138	
WHITE 08	4.5	2.45	C	734	489	367	293	245	210	183	163	147	★★★
	1	1.39	XC	416	277	208	166	139	119	104	92	83	
	1.5	1.70	XC	509	339	255	204	170	145	127	113	102	
	2	1.96	XC	588	392	294	235	196	168	147	131	118	
	2.5	2.19	VC	657	438	329	263	219	188	164	146	131	
	3	2.40	VC	720	480	360	288	240	206	180	160	144	
	3.5	2.59	C	778	519	389	311	259	222	194	173	156	
WHITE 08	4	2.77	C	832	554	416	333	277	238	208	185	166	★★★
	4.5	2.94	C	882	588	441	353	294	252	221	196	176	
	1	1.85	UC	554	369	277	221	185	158	138	123	111	
	1.5	2.26	XC	678	452	339	271	226	194	170	151	136	
	2	2.61	XC	783	522	392	313	261	224	196	174	157	
	2.5	2.92	XC	875	584	438	350	292	250	219	195	175	
	3	3.20	XC	959	639	479	384	320	274	240	213	192	
WHITE 08	3.5	3.45	VC	1036	691	518	414	345	296	259	230	207	★★★
	4	3.69	VC	1107	738	554	443	369	316	277	246	221	
	4.5	3.92	VC	1175	783	587	470	392	336	294	261	235	

BfS ExRay XC

Extended Range Nozzles

Achieve up to 90% drift reduction, and cover a wider application rate (volume) from each nozzle size in use. Get the same rates of coverage that you would normally need 3 nozzles to achieve.

The nozzles are available as either straight down or angled (30 degree) versions.



90%
LESS DRIFT
4 STAR
LERAP
RATED



Size	STRAIGHT Part No.	ANGLED Part No.	LERAP * rating
01	NNB004100	NNB004109	
015	NNB004150	NNB004159	
02	NNB004200	NNB004209	
025	NNB004250	NNB004259	★★★★
03	NNB004300	NNB004309	★★★
035	NNB004350	NNB004359	
04	NNB004400	NNB004409	★★★★
05	NNB004500	NNB004509	★★★★
06	NNB004600	NNB004609	

Note: ExRay XC 01 nozzles cannot be used at pressures below 2 bar.
ExRay XC 015 and 02 nozzles cannot be used at pressures below 1.5 bar.

How they work

ExRay XC nozzle features an extra, variable, pre-orifice to achieve the “Extended Range” of output, simply by varying the operating pressure. Incorporating Air Induction technology, the number of driftable droplets generated is minimised allowing up to 90% drift reduction to be achieved, even at practical working pressures (2 to 3 bar).

Full CRD approval and listing on their Equipment register, these were the first 4* nozzles to achieve a LERAP 4* rating.

ExRay XC nozzles are supplied ready-made up with three component parts, plus a standard ISO 8mm cap and will fit any nozzle body that accepts nozzle filters.

The ExRay XC valve and cap assembly replaces the standard cap seal and the nozzle is fitted into the cap in the normal way.

Use the Exray XC nozzles at 70cm above the target for optimal spray coverage and results.



ExRay XC Application Rate Chart

Use Exray XC at 70cm above the target

SIZE	NOZZLE PRESSURE (Bar)	FLOW (l/min)	SPRAY QUALITY	LITRES PER HECTARE Speed (kph) at 50cm nozzle spacing								LERAP Rating	Nozzle Assembly
	6	8	10	12	14	16	18	20					
ExRay XC ORANGE 01	1	N/A	Do not use at or below 2.0 bar pressure										
	1.5	N/A											
	2	0.34	XC	68	51	41	34	29	26	23	20		
	2.5	0.42	VC	84	63	50	42	36	31	28	25		
	3	0.46	C	92	69	55	46	39	35	31	28		
	3.5	0.52	C	104	78	62	52	45	39	35	31		
	4	0.58	M	116	87	70	58	50	44	39	35		
	4.5	0.62	M	124	93	74	62	53	47	41	37		
	5	0.66	M	132	99	79	66	57	50	44	40		
ExRay XC GREEN 015	1	N/A	Do not use at or below 1.5 bar pressure										
	1.5	0.32	UC	64	48	38	32	27	24	21	19		
	2	0.42	XC	84	63	50	42	36	32	28	25		
	2.5	0.57	VC	114	86	69	57	49	43	38	34		
	3	0.62	C	124	93	74	62	53	47	41	37		
	3.5	0.72	C	144	108	86	72	62	54	48	43		
	4	0.76	C	152	114	91	76	65	57	51	46		
	4.5	0.83	M	166	125	100	83	71	62	55	50		
	5	0.85	M	170	128	102	85	73	64	55	51		
ExRay XC YELLOW 02	1	N/A	Do not use at or below 1.5 bar pressure										
	1.5	0.38	UC	76	57	46	38	33	29	25	23		
	2	0.52	XC	104	78	62	52	45	39	35	31		
	2.5	0.76	VC	152	114	91	76	65	57	51	46		
	3	0.69	VC	138	103	83	69	59	52	46	41		
	3.5	0.90	C	180	135	108	90	77	68	60	54		
	4	1.00	C	200	150	120	100	86	75	67	60		
	4.5	1.05	C	210	158	126	105	90	79	70	63		
	5	1.10	M	220	165	132	110	94	83	73	66		
ExRay XC LILAC 025	1	0.50	UC	100	75	60	50	43	38	33	30	★★★★ ★★★★ ★★★★ ★★★★	
	1.5	0.60	XC	120	90	72	60	51	45	40	36		
	2	0.75	VC	150	113	90	75	64	56	50	45		
	2.5	0.91	C	181	136	109	91	78	68	60	54		
	3	1.00	C	200	150	120	100	86	75	67	60		
	3.5	1.10	C	220	165	132	110	94	83	73	66		
	4	1.20	C	240	180	144	120	103	90	80	72		
	4.5	1.30	M	260	195	156	130	111	98	87	78		
	5	1.40	M	280	210	168	140	120	105	93	84		
ExRay XC BLUE 03	1	0.70	XC	140	105	84	70	60	53	47	42	★★★★ ★★★★ ★★★★ ★★★★	
	1.5	0.85	XC	170	128	102	85	73	64	57	51		
	2	0.95	VC	190	143	114	95	81	71	63	57		
	2.5	1.11	VC	221	166	133	111	95	83	74	66		
	3	1.20	C	240	180	144	120	103	90	80	72		
	3.5	1.30	C	260	195	156	130	111	98	87	78		
	4	1.40	C	280	210	168	140	120	105	93	84		
	4.5	1.50	C	300	225	180	150	129	113	100	90		
	5	1.60	C	320	240	192	160	137	120	107	96		
ExRay XC RED BROWN 035	1	0.75	XC	150	113	90	75	64	56	50	45		
	1.5	0.90	VC	180	135	108	90	77	68	60	54		
	2	1.05	VC	210	158	126	105	90	79	70	63		
	2.5	1.25	C	249	187	149	125	107	93	83	75		
	3	1.40	C	280	210	168	140	120	105	93	84		
	3.5	1.50	C	300	225	180	150	129	113	100	90		
	4	1.60	C	320	240	192	160	137	120	107	96		
	4.5	1.70	C	340	255	204	170	146	128	113	102		
	5	1.80	C	360	270	216	180	154	135	120	108		
ExRay XC RED 04	1	0.70	UC	140	105	84	70	60	53	47	42	★★★★ ★★★★ ★★★★	
	1.5	0.90	XC	180	135	108	90	77	68	60	54		
	2	1.10	XC	220	165	132	110	94	83	73	66		
	2.5	1.45	VC	289	217	173	145	124	108	96	87		
	3	1.60	VC	320	240	192	160	137	120	107	96		
	3.5	1.70	VC	340	255	204	170	146	128	113	102		
	4	1.90	VC	380	285	228	190	163	143	127	114		
	4.5	2.00	C	400	300	240	200	171	150	133	120		
	5	2.20	C	440	330	264	220	189	165	147	132		
ExRay XC BROWN 05	1	1.05	XC	210	158	126	105	90	79	70	63	★★★★ ★★★★	
	1.5	1.29	XC	258	194	155	129	111	97	86	77		
	2	1.53	XC	306	230	184	153	131	115	102	92		
	2.5	1.75	VC	351	263	211	175	150	132	117	105		
	3	1.96	VC	392	294	235	196	168	147	131	118		
	3.5	2.12	VC	424	318	254	212	182	159	141	127		
	4	2.30	VC	460	345	276	230	197	173	153	138		
	4.5	2.53	VC	506	380	304	253	217	190	169	152		
	5	2.64	VC	528	396	317	264	226	198	176	158		
ExRay XC GREY 06	1	1.00	UC	200	150	120	100	86	75	67	60		
	1.5	1.40	UC	280	210	168	140	120	105	93	84		
	2	1.80	XC	360	270	216	180	154	135	120	108		
	2.5	2.27	XC	454	340	272	227	194	170	151	136		
	3	2.45	XC	490	368	294	245	210	184	163	147		
	3.5	2.70	XC	540	405	324	270	231	203	180	162		
	4	2.95	XC	590	443	354	295	253	221	197	177		
	4.5	3.20	XC	640	480	384	320	274	240	213	192		
	5	3.44	XC	688	516	413	344	295	258	229	206		

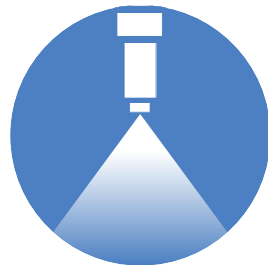
Do not mix different valve/nozzle/washer combinations or variable output will result.
When performing a calibration test ensure the system pressure is set to 3 bar

BfS PulZar PWM Nozzle

The low drift option for any PWM system

Working with Capstan and Case, BfS has developed a low drift nozzle for use with Pulse Width Modulation (PWM) nozzle bodies.

Since the early days of the introduction of PWM, BfS have been marketing PulZar nozzles throughout north America and Canada and now the PulZar nozzle systems are being offered on machines coming onto the UK market.



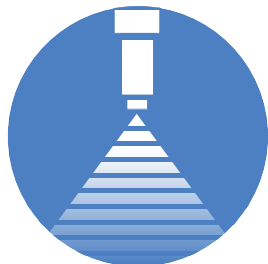
How they work

PWM controls each nozzle separately, and the flow rate from each nozzle is managed by rapidly switching the nozzle control solenoid on and off. The duration that the nozzle is “on” is called the Duty Cycle and varying this duty cycle provides the operator with the ability to control the volume output from each nozzle.

- The system pressure, spray quality and fan pattern remain consistent.
- The system can cope with a five-fold change in forward speed without affecting output.



PWM systems will enable the correct application from each nozzle even when going around a corner, where the outer edge of the boom is travelling much faster than the inner edge, so giving a lower rate of application. PWM corrects this by changing the duty cycle at each nozzle to compensate accordingly.



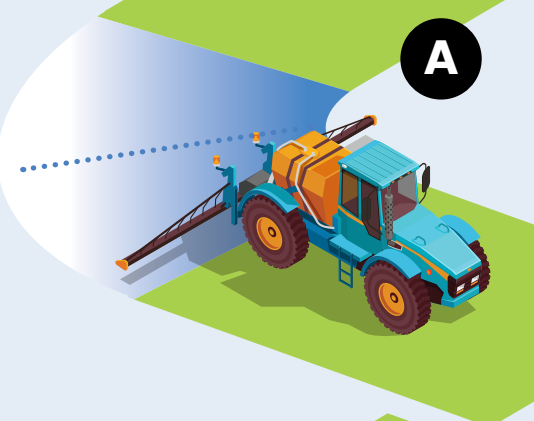
Size	Part No.	LERAP * rating
015 Green	NNC003001	★★
02 Yellow	NNC003002	★★
025 Lilac	NNC003000	★★★
03 Blue	NNC003003	★★★
04 Red	NNC003004	★★★
05 Brown	NNC003005	★★★
06 Grey	NNC003006	★★★
08 White	NNC003008	

TURN COMPENSATION

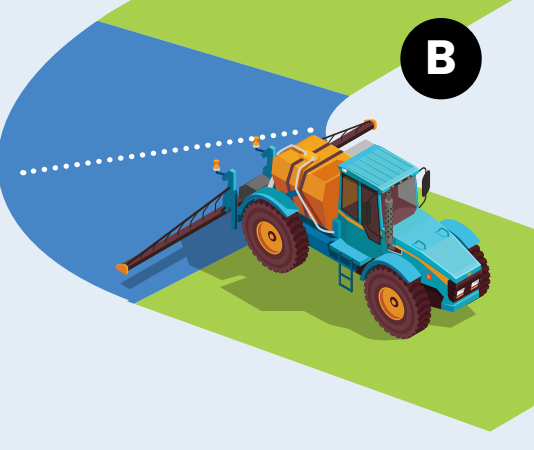
Figure A: Shows a standard system where on a turn the outside boom edge travels far quicker than the inside boom edge, resulting in differential application over that area, shown as a colour gradient from outside to inside.

Figure B: On the other hand, demonstrates how a PWM system will compensate for this speed difference by changing the duty cycle at each nozzle, while maintaining the overall system pressure, droplet size and the drift potential of the applied spray.

Uneven Application across boom width



Even Application across boom width



Flat fan nozzles have been the main nozzle used but these are prone to create small, driftable droplets. The PulZar is a low drift nozzle perfectly suited to PWM systems, with up to 75% lower drift than conventional flat fans.

Note: Other spray nozzles may not work effectively on PWM systems. BfS can provide the necessary advice if required.

PulZar PWM Application Chart

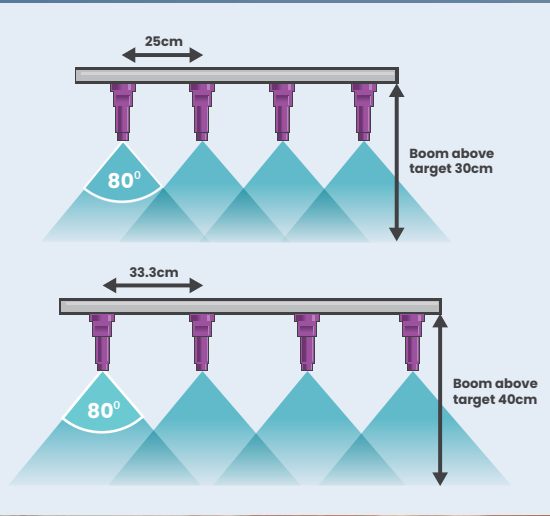
NOZZLE	PRESSURE (Bar)	FLOW (l/min)	SPRAY QUALITY	LITRES PER HECTARE AT 30% OR 100% DUTY CYCLE																LERAP Rating
				Speed (kph) at 50cm nozzle spacing																
				30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	
PULZAR GREEN 015				30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	★★
				6		8		10		12		14		16		18		20		
	1	0.35	M	21	69	16	52	12	42	10	35	9	30	8	26	7	23	6	21	
	2	0.49	M	29	98	22	73	18	59	15	49	13	42	11	37	10	33	9	29	
	3	0.60	M	36	120	27	90	22	72	18	60	15	51	14	45	12	40	11	36	
	4	0.69	M	42	139	31	104	25	83	21	69	18	59	16	52	14	46	12	42	
5	0.77	M	46	155	35	116	28	93	23	77	20	66	17	58	15	52	14	46		
PULZAR YELLOW 02				30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	★★
				6		8		10		12		14		16		18		20		
	1	0.47	VC	28	93	21	70	17	56	14	47	12	40	11	35	9	31	8	28	
	2	0.66	C	40	132	30	99	24	79	20	66	17	57	15	50	13	44	12	40	
	3	0.81	M	48	162	36	121	29	97	24	81	21	69	18	61	16	54	15	48	
	4	0.93	M	56	187	42	140	34	112	28	93	24	80	21	70	19	62	17	56	
5	1.04	M	63	209	47	157	38	125	31	104	27	89	24	78	21	70	19	63		
PULZAR LILAC 025				30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	★★★
				6		8		10		12		14		16		18		20		
	1	0.58	VC	35	116	26	87	21	70	17	58	15	50	13	43	12	39	10	35	
	2	0.82	C	49	164	37	123	30	98	25	82	21	70	18	62	16	55	15	49	
	3	1.00	M	60	201	45	151	36	121	30	100	26	86	23	75	20	67	18	60	
	4	1.16	M	70	232	52	174	42	139	35	116	30	99	26	87	23	77	21	70	
5	1.30	M	78	259	58	194	47	156	39	130	33	111	29	97	26	86	23	78		
PULZAR BLUE 03				30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	★★★
				6		8		10		12		14		16		18		20		
	1	0.69	XC	42	139	31	104	25	83	21	69	18	59	16	52	14	46	12	42	
	2	0.98	C	59	196	44	147	35	118	29	98	25	84	22	74	20	65	18	59	
	3	1.20	C	72	240	54	180	43	144	36	120	31	103	27	90	24	80	22	72	
	4	1.39	M	83	277	62	208	50	166	42	139	36	119	31	104	28	92	25	83	
5	1.55	M	93	310	70	232	56	186	46	155	40	133	35	116	31	103	28	93		
PULZAR RED 04				30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	★★★
				6		8		10		12		14		16		18		20		
	1	0.93	XC	56	185	42	139	33	111	28	93	24	79	21	69	19	62	17	56	
	2	1.31	C	79	262	59	197	47	157	39	131	34	112	29	98	26	87	24	79	
	3	1.60	C	96	321	72	241	58	193	48	160	41	138	36	120	32	107	29	96	
	4	1.85	C	111	371	83	278	67	222	56	185	48	159	42	139	37	124	33	111	
5	2.07	M	124	414	93	311	75	249	62	207	53	178	47	155	41	138	37	124		
PULZAR BROWN 05				30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	★★★
				6		8		10		12		14		16		18		20		
	1	1.15	VC	69	231	52	173	41	138	35	115	30	99	26	86	23	77	21	69	
	2	1.63	C	98	326	73	245	59	196	49	163	42	140	37	122	33	109	29	98	
	3	2.00	C	120	399	90	299	72	240	60	200	51	171	45	150	40	133	36	120	
	4	2.31	C	138	461	104	346	83	277	69	231	59	198	52	173	46	154	41	138	
5	2.58	C	155	515	116	387	93	309	77	258	66	221	58	193	52	172	46	155		
PULZAR GREY 06				30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	★★★
				6		8		10		12		14		16		18		20		
	1	1.39	XC	83	277	62	208	50	166	42	139	36	119	31	104	28	92	25	83	
	2	1.96	VC	118	392	88	294	71	235	59	196	50	168	44	147	39	131	35	118	
	3	2.40	VC	144	480	108	360	86	288	72	240	62	206	54	180	48	160	43	144	
	4	2.77	VC	166	554	125	416	100	333	83	277	71	238	62	208	55	185	50	166	
5	3.10	VC	186	620	139	465	112	372	93	310	80	266	70	232	62	207	56	186		
PULZAR WHITE 08				30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	30%	100%	★★★
				6		8		10		12		14		16		18		20		
	1	1.85	UC	111	369	83	277	66	221	55	185	47	158	42	138	37	123	33	111	
	2	2.61	XC	157	522	117	392	94	313	78	261	67	224	59	196	52	174	47	157	
	3	3.20	XC	192	639	144	479	115	384	96	320	82	274	72	240	64	213	58	192	
	4	3.69	XC	221	738	166	554	133	443	111	369	95	316	83	277	74	246	66	221	
5	4.13	C	248	825	186	619	149	495	124	413	106	354	93	310	83	275	74	248		

LERAP Rating applies to spraying at 2 to 2.5bar, 50cm nozzle height, traveling between 4kph-12kph, when used at 100% duty cycle or as a standard nozzle.

STS-80 Narrow Angle Range

An air inclusion, 80° nozzle for use where nozzle body centres are at 25cm or 33cm spacing.

This allows for a lower boom height to be maintained to achieve the double overlap required for even application, and this lower boom height also results in less drift



A narrow angle spray nozzle produces fewer fine droplets at the edge of the spray pattern, compared to a 110° fan pattern. Thus 80° nozzles produce potentially less drift than 110° nozzles, so by combining this with a lower boom height, results in extremely low levels of drift which is what all operators need to strive for – more active ingredient on the target. Currently available in three sizes to apply from 70 litres per ha to 260 litres per ha at 12 kph (25cm spacing), and between 52 litres per ha and 196 litres per ha at 12 kph (33.3 cm spacing)

80° fan angle, air inclusion jet for narrow nozzle body spacings

Size	Part No.
015 Green	NNBSTS015
02 Yellow	NNBSTS020
025 Lilac	NNBSTS025

STS-80 Nozzle Application Chart

NOZZLE	PRESSURE (Bar)	FLOW (l/min)	SPRAY QUALITY	25cm NOZZLE SPACING							
				Speed (kph)							
STS-80 GREEN 015				6	8	10	12	14	16	18	20
	1	0.35	M	139	104	83	69	59	52	46	42
	2	0.49	M	196	147	118	98	84	73	65	59
	3	0.60	M	240	180	144	120	103	90	80	72
	4	0.69	M	277	208	166	139	119	104	92	83
	5	0.77	M	310	232	186	155	133	116	103	93
STS-80 YELLOW 02				6	8	10	12	14	16	18	20
	1	0.46	C	185	139	111	92	79	69	62	55
	2	0.65	C	261	196	157	131	112	98	87	78
	3	0.80	M	320	240	192	160	137	120	107	96
	4	0.92	M	370	277	222	185	158	139	123	111
	5	1.03	M	413	310	248	207	177	155	138	124
STS-80 LILAC 025				6	8	10	12	14	16	18	20
	1	0.58	VC	231	173	139	115	99	87	77	69
	2	0.82	C	327	245	196	163	140	122	109	98
	3	1.00	M	400	300	240	200	171	150	133	120
	4	1.15	M	462	346	277	231	198	173	154	139
	5	1.29	M	516	387	310	258	221	194	172	155

NOZZLE	PRESSURE (Bar)	FLOW (l/min)	SPRAY QUALITY	33.3cm NOZZLE SPACING							
				Speed (kph)							
STS-80 GREEN 015				6	8	10	12	14	16	18	20
	1	0.35	M	105	79	63	52	45	39	35	31
	2	0.49	M	148	111	89	74	64	56	49	45
	3	0.60	M	182	136	109	91	78	68	61	55
	4	0.69	M	210	157	126	105	90	79	70	63
	5	0.77	M	235	176	141	117	101	88	78	70
STS-80 YELLOW 02				6	8	10	12	14	16	18	20
	1	0.46	C	140	105	84	70	60	52	47	42
	2	0.65	C	198	148	119	99	85	74	66	59
	3	0.80	M	242	182	145	121	104	91	81	73
	4	0.92	M	280	210	168	140	120	105	93	84
	5	1.03	M	313	235	188	156	134	117	104	94
STS-80 LILAC 025				6	8	10	12	14	16	18	20
	1	0.58	VC	175	131	105	87	75	66	58	52
	2	0.82	C	247	186	148	124	106	93	82	74
	3	1.00	M	303	227	182	152	130	114	101	91
	4	1.15	M	350	262	210	175	150	131	117	105
	5	1.29	M	391	293	235	196	168	147	130	117



Bfs Standard 'Wide range' Nozzle



Bfs do make a flat fan for use when low drift nozzles are not appropriate.

However, they should not be used in anything but the best spraying conditions when drift onto non-target areas will not occur.



Ceramic Sizes	Part No.	Plastic Sizes	Part No.
02 Yellow	NNA003111	015 Green	NNA003101
03 Blue	NNA003112	02 Yellow	NNA003102
04 Red	NNA003113	025 Lilac	NNA003027
05 Brown	NNA003114	03 Blue	NNA003103
06 Grey	NNA003115	04 Red	NNA003104
		05 Brown	NNA003105
		06 Grey	NNA003106
		08 White	NNA003108
		10 Black	NNA003110

Bfs Standard 'Wide range' Nozzle Application Chart

SIZE	NOZZLE PRESSURE (Bar)	FLOW (l/min)	LITRES PER HECTARE Speed (kph) at 50cm nozzle spacing							
			6	8	10	12	14	16	18	20
GREEN 015	1	0.35	69	52	42	35	30	26	23	21
	2	0.49	98	73	59	49	42	37	33	29
	3	0.60	120	90	72	60	51	45	40	36
	4	0.69	139	104	83	69	59	52	46	42
	5	0.77	155	116	93	77	66	58	52	46
YELLOW 02	1	0.49	92	69	55	46	40	35	31	28
	2	0.66	132	99	79	66	57	50	44	40
	3	0.80	162	121	97	81	69	61	54	49
	4	0.93	187	140	112	93	80	70	62	56
	5	1.04	209	157	125	104	89	78	70	63
LILAC 025	1	0.58	116	87	70	58	50	43	39	35
	2	0.82	163	123	98	82	70	61	55	49
	3	1.00	200	151	121	100	86	75	67	60
	4	1.15	231	174	139	116	99	87	77	70
	5	1.30	259	194	156	130	111	97	86	78
BLUE 03	1	0.69	139	104	83	69	59	52	46	42
	2	0.98	196	147	118	98	84	74	65	59
	3	1.20	240	180	144	120	103	90	80	72
	4	1.39	277	208	166	139	119	104	92	83
	5	1.55	310	232	186	155	133	116	103	93
RED 04	1	0.92	184	139	111	93	79	69	62	55
	2	1.31	261	196	157	131	112	98	87	79
	3	1.60	320	241	193	160	138	120	107	96
	4	1.85	370	278	222	185	159	139	124	111
	5	2.07	414	311	249	207	178	155	138	124
BROWN 05	1	1.16	231	173	139	115	99	87	77	69
	2	1.63	327	245	196	163	140	122	109	98
	3	2.00	400	299	240	200	171	150	133	120
	4	2.31	462	346	277	231	198	173	154	138
	5	2.58	515	387	309	258	221	193	172	155
GREY 06	1	1.39	277	208	166	139	119	104	92	83
	2	1.96	392	294	235	196	168	147	131	118
	3	2.40	480	360	288	240	206	180	160	144
	4	2.77	554	416	333	277	238	208	185	166
	5	3.10	620	465	372	310	266	232	207	186
WHITE 08	1	1.85	369	277	221	185	158	138	123	111
	2	2.61	523	392	314	261	224	196	174	157
	3	3.20	640	480	384	320	274	240	213	192
	4	3.70	739	554	443	370	317	277	246	222
	5	4.13	826	620	496	413	354	310	275	248
BLACK 10	1	2.31	461	346	277	231	198	173	154	138
	2	3.26	653	489	392	326	280	245	218	196
	3	4.00	799	599	480	400	343	300	266	240
	4	4.61	923	692	554	461	395	346	308	277
	5	5.16	1032	774	619	516	442	387	344	310

Fairway 90 Amenity Nozzle

Better
for the
environment
and the
operator



- Ultra low drift - no need to use a shrouded boom
- See what your nozzles are doing
- Perfect for use in urban areas, golf courses, playing fields, caravan and camp sites, local authority parks and gardens
- Full ISO range available to cater for many different application volumes
- Standard operating pressures (2 to 5 bar)
- Direct replacement nozzle - fits most nozzle bodies
- Supplied complete in a cap ready to fit
- More spray days per season
- Improve timeliness of applications

Billericay Farm Services Ltd, introduce the “Fairway 90” Low Drift Nozzle for all amenity spraying. Great coverage from this extended range nozzle, capable of being used from 2 to 5 bar pressure without significantly increasing drift.

Get rid of your shrouded sprayer boom but maintain excellent drift control, while being able to see the nozzles spraying.

This results in more active ingredient going where it is targeted and not onto surrounding sensitive areas, whilst at the same time being able to see if any nozzles are not operating.

Safer for the operator, accidental bystanders and the environment.

Fairway 90	Part No.
Nozzle 01	NNB005100
Nozzle 015	NNB005150
Nozzle 02	NNB005200
Nozzle 025	NNB005250
Nozzle 03	NNB005300
Nozzle 035	NNB005350
Nozzle 04	NNB005400
Nozzle 05	NNB005500
Nozzle 06	NNB005600

Fairway 90 Amenity Nozzle Application Chart

Nozzle	Pressure	Flow	Spray Quality *	Output in Litres/Ha (at nozzle height of 70cm and nozzle spacing of 50cm)				
				Speed (KPH)				
				4	6	8	10	12
Fairway 90 ORANGE 01	Bar	L/Min	*	4	6	8	10	12
	2	0.34	XC	102	68	51	41	34
	2.5	0.42	VC	125	84	63	50	42
	3	0.46	C	138	92	69	55	46
	3.5	0.52	C	156	104	78	62	52
Fairway 90 GREEN 015	Bar	L/Min	*	4	6	8	10	12
	2	0.42	XC	126	84	63	50	42
	2.5	0.57	VC	172	114	86	69	57
	3	0.62	C	186	124	93	74	62
	3.5	0.72	C	216	144	108	86	72
Fairway 90 YELLOW 02	Bar	L/Min	*	4	6	8	10	12
	2	0.52	XC	156	104	78	62	52
	2.5	0.76	VC	228	152	114	91	76
	3	0.69	VC	206	138	103	83	69
	3.5	0.90	C	270	180	135	108	90
Fairway 90 LILAC 025	Bar	L/Min	*	4	6	8	10	12
	2	0.75	VC	225	150	113	90	75
	2.5	0.91	C	272	181	136	109	91
	3	1.00	C	300	200	150	120	100
	3.5	1.10	C	330	220	165	132	110
Fairway 90 BLUE 03	Bar	L/Min	*	4	6	8	10	12
	2	0.95	VC	285	190	143	114	95
	2.5	1.11	VC	332	221	166	133	111
	3	1.20	C	360	240	180	144	120
	3.5	1.30	C	390	260	195	156	130
Fairway 90 RED BROWN 035	Bar	L/Min	*	4	6	8	10	12
	2	1.05	VC	315	210	158	126	105
	2.5	1.25	C	374	249	187	149	125
	3	1.40	C	420	280	210	168	140
	3.5	1.50	C	450	300	225	180	150
Fairway 90 RED 04	Bar	L/Min	*	4	6	8	10	12
	2	1.10	XC	330	220	165	132	110
	2.5	1.45	VC	434	289	217	173	145
	3	1.60	VC	480	320	240	192	160
	3.5	1.70	VC	510	340	255	204	170
Fairway 90 BROWN 05	Bar	L/Min	*	4	6	8	10	12
	2	1.53	XC	459	306	230	184	153
	2.5	1.75	VC	526	351	263	211	175
	3	1.96	VC	588	392	294	235	196
	3.5	2.12	VC	636	424	318	254	212
Fairway 90 GREY 06	Bar	L/Min	*	4	6	8	10	12
	2	1.80	XC	540	360	270	216	180
	2.5	2.27	XC	681	454	340	272	227
	3	2.45	XC	735	490	368	294	245
	3.5	2.70	XC	810	540	405	324	270

* Spray Quality Coding			Important Notes
Category	Symbol	Colour	
Extremely Fine	XF	Purple	It is essential that the correct combination of Fairway 90 nozzle and valve insert are used together for accuracy and efficiency.
Very Fine	VF	Red	
Fine	F	Orange	Ensure the nozzle height is 70cm above the target.
Medium	M	Yellow	
Coarse	C	Blue	
Very Coarse	VC	Green	
Extremely Coarse	XC	White	
Ultra Coarse	UC	Black	

Low Drift Knapsack Nozzle Pack

A nozzle for every knapsack application, low drift to protect the operator and the environment

Knapsack Nozzle Pack MKM001199



Low Drift Knapsack Application Chart

	Nozzle	Pressure (Bar)	L/Min	Output at Speed 3.6 kph (Litres / ha)		Swath Width (Coverage Width)		Spot Treatment Output (mls)		
				0.5m	1.0m	50cm	100cm	seconds		
				1m / s	1m / s	Nozzle Height (cm)		1	2	3
	Bubble Jet									
	ABJ	1.0	0.58	192	96	30	60	9.6	19.2	28.9
	025	1.5	0.71	236	118	30	60	11.8	23.6	35.4
		2.0	0.82	272	136	25	50	13.6	27.2	40.8
		2.5	0.91	304	152	25	50	15.2	30.4	45.6
	Flat Fan									
	WR	1.0	0.58	192	96	17.5	35	9.6	19.2	28.9
	025	1.5	0.71	236	118	17.5	35	11.8	23.6	35.4
		2.0	0.82	272	136	17.5	35	13.6	27.2	40.8
		2.5	0.91	304	152	17.5	35	15.2	30.4	45.6
	Cone Jet									
	ABCJ	1.0	0.58	192	96	30	60	9.6	19.2	28.9
	025	1.5	0.71	236	118	30	60	11.8	23.6	35.4
		2.0	0.82	272	136	30	60	13.6	27.2	40.8
		2.5	0.91	304	152	30	60	15.2	30.4	45.6
	Anvil Nozzle									
	DT AN	1.5	0.71	236	118	30	60	11.8	23.6	35.4
	025	2.0	0.82	272	136	21	42	13.6	27.2	40.8
		2.5	0.91	304	152	14.5	29	15.2	30.4	45.6
		3.0	1.00	333	167	12	24	16.7	33.3	50.0

A convenient pack of 4 assorted nozzles and a nozzle filter to cater for any knapsack application:

BfS AirBubble Jet – 025

For general purpose use, where low drift is necessary for most pesticide applications. 110° fan pattern.

BfS Hollow Cone ABCJ – 025

The angled fan from this low drift, hollow cone nozzle, ensures great coverage for fungicide and insecticides. 80° fan pattern.

Airmix Deflector tip – 025

Air inclusion large droplets for increased drift control. Ideal for herbicides where drift can not be tolerated. 80 to 130° fan pattern.

BfS Wide Range Flat Fan – 025

For use under glass where drift will not be a problem.

Nozzle filter – 100 mesh

to keep particulate debris out of the nozzle to reduce blockages.

All 025 nozzles to suit walking pace use of 1m per second. Official flow rate of 1.0 litre/minute at 3 bar operating pressure.

These individual nozzles are also sold separately, in multiples, for boom use. We also stock nozzles with different flow rates. Please ask for further information if you require any.



Agrotop Nozzles

We are the UK's official distributor for Agrotop nozzles and spraying accessories

Bfs ABCJ Hollow Cone Air Induction Nozzle

025 nozzle for effective coverage from all angles to give superior control of insects and late season fungicides from the 80° fan angle. Air inclusion gives superior drift reduction for a hollow cone nozzle design.

These are a great idea also for use in knapsack sprayers to reduce operator exposure and drift onto sensitive vegetation. Can be used at low pressures.

Size	Part No.
025 Lilac	NNA004125



APE 80° Ceramic range

Standard flat fan 80° ceramic nozzle. Hard wearing.

Size	Part No.
01 Orange 80	NNF002012
015 Green 80	NNF002014
02 Yellow 80	NNF002011
04 Red 80	NNF002013



Airmix OC 80° (offset nozzle)

Low pressure off-centre air-inclusion nozzle for a sharp cut off on the outer nozzle of the boom, to protect the field margins. Also for use in knapsack sprayers for simple edge spraying.

Size	Part No.
02 Yellow OC80	NNA003308
025 Lilac OC80	NNA003309
03 Blue OC80	NNA003310
04 Red OC80	NNA003311
05 Brown OC80	NNA003312



ATR 80° Hollow Cone ceramic

Ideal cone nozzle for orchards and vineyards, but very drift prone.

Size	Part No.
015 Green	NNF002006
02 Yellow	NNF002007



AVI 80°/110° ceramic

015, 02, 025, 03, 04 Venturi air inclusion (11mm nozzle) Ideal low drift flat fan nozzle for orchards and vineyards.

Size	Part No.
015 Green	NNF002018
02 Yellow	NNF002015
025 Lilac	NNF002020
03 Blue	NNF002019
04 Red	NNF002016



Tip Cap plastic range

Size	Part No.
015 Green Tipcap plastic	NNA003001
02 Yellow Tipcap plastic	NNA003002
03 Blue Tipcap plastic	NNA003003
04 Red Tipcap plastic	NNA003004
05 Brown Tipcap plastic	NNA003005
06 Grey Tipcap plastic	NNA003006
08 White Tipcap plastic	NNA003008
10 Black Tipcap plastic	NNA003010
12 Turquoise Tipcap plastic	NNA003012
16 Purple Tipcap plastic	NNA003016
20 Light Blue Tipcap plastic	NNA003020

Tip Cap ceramic range

Ceramic flat fan incorporated in the cap to make removal/replacement and storage simple. Colour coded to the nozzle flow range. Includes sealing washer.

Size	Part No.
015 Green Tipcap Ceramic	NNA002001
02 Yellow Tipcap Ceramic	NNA002002
03 Blue Tipcap Ceramic	NNA002003
04 Red Tipcap Ceramic	NNA002004
05 Brown Tipcap Ceramic	NNA002005
06 Grey Tipcap Ceramic	NNA002006
08 White Tipcap Ceramic	NNA002007



Flat Fan 80° degree range

These flat fan nozzles are ideally suited to booms with 25 and 33cm nozzle spacing, where a fine spray is required. Suitable for PWM but expect more drift than from the Bfs STS-80 range, which are the preferred low drift option.

Size	Part No.
03 Blue 80	NNA003183
04 Red 80	NNA003184
05 Brown 80	NNA003185
06 Grey 80	NNA003024
08 White 80	NNA003025
10 Black 80	NNA003026

BfS Angled Caps



British designed and manufactured, this exciting spraying innovation from Billericay Farm Services offers sprayer operators the opportunity of achieving the benefits of angling the spray forwards or backwards, whilst using their existing nozzles.

Angled Caps provide a 30° spray angle using all standard 8mm nozzles

- Improved vegetation coverage
- Increased chemical efficacy
- Enhanced disease control

Why use them?

Research has shown that angling the spray at 30° and alternating the nozzles backwards and forwards across the boom improves spray deposition.

The need to purchase additional, more expensive speciality nozzles is eliminated.



Colour code	Part No.
Black	NCF000100
Orange	NCF000110
Green	NCF000115
Yellow	NCF000120
Lilac	NCF000125
Blue	NCF000130
Brown Red	NCF000135
Red	NCF000140
Brown	NCF000150
Grey	NCF000160
White	NCF000180
Replacement Seal	NCF000101

Twin Caps



The Twin Cap is designed to hold two Billericay Air Bubble Jets at an angle of 30 degrees forward and 30 degrees rearward facing to get improved crop coverage with increased volumes, while maintaining a specified spray quality. Will hold standard flat fans or a blanking nozzle if this is required.

Part No	NTB000011
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Standard Nozzle Caps



Available in all colours as an 8mm nozzle size, and in select colours as an 11mm nozzle size.

Part No	8mm	11mm
Orange	NCA000012	
Green	NCA000001	
Yellow	NCA000002	
Lilac	NCA000000	
Blue	NCA000003	NCA000314
Brown Red	NCA002992	
Red	NCA000004	NCA000315
Brown	NCA000005	NCA000311
Grey	NCA000006	
White	NCA000004	
Black	NCA000021	NCA000304

Blanking Nozzle/Cap



Blanking Nozzle	NTA000001
Blanking Cap	NCA000021

Nozzle Filters

Full range of dome and cylinder filters available for in-line and nozzle filtration.

Various sizes from 25 mesh to 200 mesh.

Colour code	Part No.
24 mesh White	NSA000002
50 mesh Blue	NSA000003
100 mesh Red	NSA000001
200 mesh Pink	NSA000009
Hardi filter: 50 mesh blue	NSA000203



Other caps are kept in stock, Hardi for example, so please ask if you have any special requirements.

BfS FlowCheck

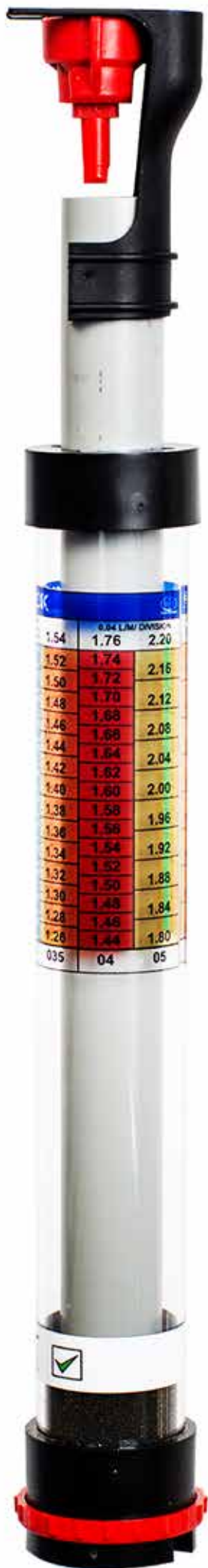
Easy and effective method of checking the flow output of nozzles. No need for a jug or a stop watch.



Simply set the dial at the base of the FlowCheck to the nozzle size being tested e.g. 03, hang the FlowCheck(s) on the boom under the nozzle (can be a single one or a number spread across the boom), turn on the pump, set the boom pressure to 3 bar and the FlowCheck will indicate the flow, within a few seconds.

Available singly or in sets of 5 in a carry case, for Sprayer Test Examiners.

Part No LTS000007



01268 710237

BfS AutoStreamer variable rate Liquid Fertiliser Applicator

Provides true variable rate liquid fertiliser application

The AutoStreamer developed and manufactured by BfS works on sprayers with flow based rate controllers. Accurate application of liquid fertiliser is made simple as the operator has only to enter the litres per hectare required, factor in the specific gravity (SG) and begin to apply. Changing the application rate is equally simple and undertaken from within the cab. The AutoStreamer is manufactured in chemical resistant, glass reinforced plastic and is easily fitted to most boom sprayers.

AutoStreamer Features

- **Precision:** Ensures the accurate placement of liquid fertilisers right up to the edge of the crop.
- **Efficiency:** Allows the application of liquid fertilisers under a wide range of conditions at full rate right up to the crop boundaries.
- **Accuracy:** Use at any boom height with no overlap or underlap, and no off target contamination.
- **Protection:** Minimises crop scorch. Stabilised streams of liquid with large droplets that tend to roll off crop leaves.

How does it work?

Using a quad-valve manifold system, where each valve is encased in a specially developed rubber sleeve, the AutoStreamer allows the operator to achieve a ten-fold increase in flow rate from a three-fold increase in pressure. The unique manifold directs the flow of liquid fertiliser into four individual outlets 12.5cm apart across the whole boom width. Hooks on each end allow for adjacent bars to be loosely attached together to keep them in line. Nitrile bands available to join them.

Part No. NFB300004



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Colour code	Part No.
Teejet /EF3 /Euro	NFB500001
Agrifac	NFB500010
Stabiliser band	NFB300004
For confirmation of details see our AutoStreamer leaflet.	

BfS AutoStreamer Application Chart

Litres per Hectare	Speed range in Kph, between 0.75 bar to 2.6 bar pressure														
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
60															
120															
180															
240															
300															
400															
500															
600															
700															
800															
900															
1000															
1100															

BfS Dribble Bar II



The Dribble Bar II has a re-designed flow control disc now with 11 settings giving extra application rate options, but retains the unique “dial-a-rate setting” flow rate adjustment. It accurately applies liquid fertiliser through four equally-spaced openings along the Dribble Bar.

The application rates can be pre-set to one of eleven different flow rates by a simple fingertip adjustment of the flow control disc. No need to remove the Dribble Bar or have multiple nozzles to cover your required rates of application.



Dribble Bar II Features

- **Accurate:** Allows precision targeting of liquid fertiliser, eradicates application overlap, and therefore reduces potential crop lodging
- **Effective:** Provides an efficient and flexible method of application at any boom height.
- **Economic:** More efficient utilisation of labour and machines and reduces waste.
- **Safe:** Minimises the risk of crop scorch.

TeeJet/EF3/Euro NFB200401



Stabilisers

Hooks adjacent Dribble Bars together to keep them in line.

Dribble Bars NFB200412



BfS Dribble Bar II Application Chart

YELLOW DISC	NOZZLE PRESSURE (Bar)	FLOW (l/min)	LITRES PER HECTARE										
			Speed (kph) at 50cm nozzle spacing										
			5	6	7	8	9	10	11	12	13	14	15
POSITION * *	1 1.25 1.5 1.75 2 2.5	1.08 1.21 1.29 1.41 1.48 1.62	259 290 310 338 355 389	216 242 258 282 296 324	185 207 221 242 254 278	162 182 194 212 222 243	144 161 172 188 197 216	130 145 155 169 178 194	118 132 141 154 161 177	108 121 129 141 148 162	100 112 119 130 137 150	93 104 111 121 127 139	86 97 103 113 118 130
POSITION ▽ ▽	1 1.25 1.5 1.75 2 2.5	1.12 1.24 1.34 1.44 1.52 1.70	269 298 322 346 365 408	224 248 268 288 304 340	192 213 230 247 261 291	168 186 201 216 228 255	149 165 179 192 203 227	134 149 161 173 182 204	122 135 146 157 166 185	112 124 134 144 152 170	103 114 124 133 140 157	96 106 115 123 130 146	90 99 107 115 122 136
POSITION 1 1	1 1.25 1.5 1.75 2 2.5	1.35 1.54 1.67 1.80 1.90 2.04	324 370 401 432 456 490	270 308 334 360 380 408	231 264 286 309 326 350	203 231 251 270 285 306	180 205 223 240 253 272	162 185 200 216 228 245	147 168 182 196 207 223	135 154 167 180 190 204	125 142 154 166 175 188	116 132 143 154 163 175	108 123 134 144 152 163
POSITION 2 2	1 1.25 1.5 1.75 2 2.5	1.76 1.95 2.12 2.23 2.34 2.54	422 468 509 535 562 610	352 390 424 446 468 508	302 334 363 382 401 435	264 293 318 335 351 381	235 260 283 297 312 339	211 234 254 268 281 305	192 213 231 243 255 277	176 195 212 223 234 254	162 180 196 206 216 234	151 167 182 191 201 218	141 156 170 178 187 203
POSITION 3 3	1 1.25 1.5 1.75 2 2.5	2.20 2.45 2.68 2.82 2.96 3.24	528 588 643 677 710 778	440 490 536 564 592 648	377 420 459 483 507 555	330 368 402 423 444 486	293 327 357 376 395 432	264 294 322 338 355 389	240 267 292 308 323 353	220 245 268 282 296 324	203 226 247 260 273 299	189 210 230 242 254 278	176 196 214 226 237 259
POSITION 4 4	1 1.25 1.5 1.75 2 2.5	2.57 2.79 3.02 3.21 3.34 3.66	617 670 725 770 802 878	514 558 604 642 668 732	441 478 510 550 573 627	386 419 453 482 501 549	343 372 403 428 445 488	308 335 362 385 401 439	280 304 329 350 364 399	257 279 302 321 334 366	237 258 279 296 308 338	220 239 259 275 286 314	206 223 242 257 267 293
POSITION 5 5	1 1.25 1.5 1.75 2 2.5	2.92 3.22 3.46 3.67 3.79 4.18	701 773 830 881 910 1003	584 644 692 734 758 836	501 552 593 629 650 717	438 483 519 551 569 627	389 429 461 489 505 557	350 386 415 440 455 502	319 351 377 400 413 456	292 322 346 367 379 418	270 297 319 339 350 386	250 276 297 315 325 358	234 258 277 294 303 334
POSITION 6 6	1 1.25 1.5 1.75 2 2.5	3.79 4.28 4.62 4.98 4.28 5.66	910 1027 1109 1195 1027 1358	758 856 924 984 856 1132	650 734 792 854 734 970	569 642 693 747 642 849	505 571 616 664 571 755	455 514 554 598 514 679	413 467 504 543 467 617	379 428 462 498 428 566	350 395 426 460 395 522	325 367 396 427 367 485	303 342 370 398 342 453
POSITION 7 7	1 1.25 1.5 1.75 2 2.5	4.36 4.82 5.23 5.60 6.12 6.65	1046 1157 1255 1344 1469 1596	872 964 1046 1120 1224 1330	747 826 897 960 1049 1140	654 723 785 840 918 998	581 643 679 747 816 887	523 578 628 672 734 798	476 526 571 611 668 725	436 482 523 560 612 665	402 445 483 517 565 614	374 413 448 480 525 570	349 386 418 448 490 532
POSITION 8 8	1 1.25 1.5 1.75 2 2.5	4.58 5.08 5.46 5.92 6.52 7.20	1099 1219 1310 1421 1565 1728	916 1016 1092 1184 1304 1440	785 871 936 1015 1118 1234	687 762 819 888 978 1080	611 677 728 789 869 960	550 610 655 710 782 864	500 554 596 646 711 785	458 508 546 592 652 720	423 469 504 546 602 665	393 435 468 507 559 617	366 406 437 474 522 576
POSITION 9 9	1 1.25 1.5 1.75 2 2.5	4.74 5.30 5.72 6.20 6.72 7.48	1138 1272 1373 1488 1613 1795	948 1060 1144 1240 1344 1496	813 909 981 1063 1152 1282	711 795 858 930 1008 1122	632 707 763 827 896 997	569 636 686 744 806 898	517 578 624 676 733 816	474 530 572 620 672 748	438 489 528 572 620 690	406 454 490 531 576 641	379 424 458 496 538 598

The application rates in this chart have been measured using water. These figures are given as a guide and the operator should adjust speed and pressure to suit local conditions. Please note that pressures higher than 2.5bar can damage the Dribble Bar II and care must be taken when using automatic controllers.

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BfS 5 Star / 5 Star Plus Liquid Fertiliser Nozzles



5 Star and **5 Star Plus** are single fertiliser caps specifically designed for flow based controllers. Designed to operate at 70cms above target, the 5 streams provide excellent coverage reducing the risk of scorch damage to the crop.

One nozzle will have the same output range as 3 standard ISO fertiliser caps. Suitable for Easy Fit 3 nozzle bodies and a multitude of boom configurations.

How does it work?

5 Star consists of a five hole, fertiliser nozzle housing with a bayonet fitting. The nozzle incorporates an internal auto-valve that comprises a chamber and metering orifice surrounded by a resilient, but flexible, sheath. The sheath is manufactured using a specially developed material, which is expandable and reacts consistently and proportionately to increase / decrease in pressure. When there is no flow / pressure the flexible sheath closes the exit aperture in the support plug. As pressure is increased the sheath expands in response to the increase and liquid flows out of the aperture and into a chamber at a rate directly proportional to the increase in pressure and then exits as five consistent streams through the five orifices.

5 Star	NFB400103
5 Star Plus	NFB400104



5 Star Application Range Litres															
Litres Per Hectare	Speed KPH Range using 1.25bar to 2.75bar														
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
60															
80															
100															
140															
180															
200															
240															
280															
300															
350															
400															
450															
500															

5 Star Plus Application Range Litres															
30N SG 1.3 Litres Per Hectare	Speed KPH Range using 1.0bar to 2.5bar														
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
60															
80															
100															
140															
180															
200															
240															
280															
300															
350															
400															
450															
500															

BfS Nova

Liquid Fertiliser applicator cap



BfS Nova liquid fertiliser cap distributes liquid fertiliser from 5 streams, to evenly cover the 50cm distance between nozzle bodies.

Designed to be used either as a standalone nozzle, or in conjunction with the BfS Dribblebar II, for those difficult to fit positions where a Dribble Bar will not fit and a cap is required.

Boom height should be 70cm above the target. Use at the lower end of the pressure range, wherever possible, to reduce the risk of crop scorch from smaller droplets.

Available in ISO colours red, brown, grey and white with more sizes to be added to the range in the future.



Nova comes from the same stable as the Bfs 5 Star and Bfs 5 Star Plus, however this model is compatible with all types of sprayer controller, unlike the 5 star and 5 Star Plus which are flow based only.

Boom nozzle spacing should be 50 cm along the boom and the cap 70 cm above target to get optimum distribution.

Red 04	NFB400240
Brown 05	NFB400250
Grey 06	NFB400260
White 08	NFB400280

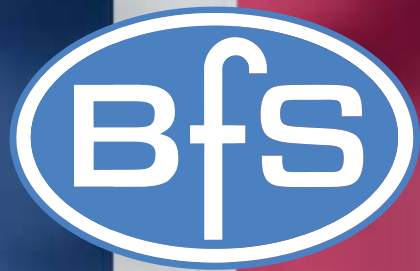


BfS Nova

Application Chart

NOZZLE	NOZZLE		LITRES PER HECTARE										
	PRESSURE (Bar)	FLOW (l/min)	Speed (kph) at 50cm nozzle spacing										
			5	6	7	8	9	10	11	12	13	14	15
NOVA 04	1	0.90	217	181	155	135	120	108	98	90	83	77	72
	1.25	1.01	241	201	172	151	134	121	110	101	93	86	80
	1.5	1.10	265	221	189	165	147	132	120	110	102	95	88
	1.75	1.19	285	237	203	178	158	142	129	119	109	102	95
	2	1.29	308	257	220	193	171	154	140	129	119	110	103
	2.25	1.46	325	271	232	203	180	162	148	135	125	116	108
	2.5	1.42	340	284	243	213	189	170	155	142	131	122	113
	2.75	1.50	359	299	256	224	199	180	163	150	138	128	120
	3	1.60	384	320	274	240	213	192	175	160	148	137	128
NOVA 05	1	1.06	254	212	182	159	141	127	116	106	98	91	85
	1.25	1.19	285	237	203	178	158	142	129	119	110	102	95
	1.5	1.35	323	269	231	202	179	161	147	135	124	115	108
	1.75	1.42	340	283	243	212	189	170	155	142	131	121	113
	2	1.63	391	326	279	245	217	196	178	163	150	140	130
	2.25	1.61	386	322	276	241	214	193	175	161	148	138	129
	2.5	1.71	409	341	292	256	227	205	186	171	157	146	136
	2.75	1.90	456	380	325	285	253	228	207	190	175	163	152
	3	2.00	480	400	343	300	267	240	218	200	185	171	160
NOVA 06	1	1.35	324	270	231	203	180	162	147	135	125	116	108
	1.25	1.47	353	294	252	220	196	176	160	147	136	126	118
	1.5	1.63	390	325	279	244	217	195	177	163	150	139	130
	1.75	1.73	416	347	297	260	231	208	189	173	160	149	139
	2	1.80	432	360	309	270	240	216	196	180	166	154	144
	2.25	1.99	478	398	341	299	265	239	217	190	184	171	159
	2.5	2.10	504	420	360	315	280	252	229	199	194	180	168
	2.75	2.20	528	440	377	330	294	264	240	190	203	189	176
	3	2.40	576	480	411	360	320	288	262	240	222	206	192
NOVA 08	1	1.76	422	352	302	264	235	211	192	176	162	151	141
	1.25	2.02	485	404	346	303	269	242	220	202	186	173	162
	1.5	2.18	522	435	373	326	290	261	237	218	201	186	174
	1.75	2.42	582	485	415	363	323	291	264	242	224	208	194
	2	2.56	614	512	439	384	341	307	279	256	236	219	205
	2.25	2.72	652	543	466	407	362	326	296	272	251	233	217
	2.5	2.82	678	565	484	424	377	339	308	282	261	242	226
	2.75	2.95	708	590	506	443	394	354	322	295	272	253	236
	3	3.20	768	640	549	480	427	384	349	320	295	274	256

*Flow rates calculated using water @ 20°C.
At pressures over 3 bar some atomisation will occur and result in an increased risk of crop scorch.



How to reduce drift

BfS were, and still are, at the forefront of low drift spray nozzle technology. To reduce drift onto non-target plants, and to safeguard the environment, try these ways to reduce undesirable spray drift:

- Do not spray in windy weather – a light air or breeze is preferable, and do not spray if droplets are blown towards sensitive areas
- Choose a nozzle with a 3-star (75% lower drift) or 4-star (90% lower drift) LERAP rating – BfS have several options
- Use a higher volume of water through a nozzle with a larger orifice, producing larger, less drift prone droplets
- Slow down – Less air movement to affect the smaller droplets
- Alternate adjacent nozzles to face forwards and downwards so there is less droplet impact which will result in smaller, drift prone droplets being created
- Lower the boom (but consistent with the correct overlap and even spray pattern from the nozzles chosen) as the time it takes a droplet to move from the nozzle to the target is critical for drift control. The shorter the time the better.
- Operate the system at a lower pressure – this creates larger droplets which are less prone to drift
- Try an 80° fan angle nozzle if it suits your sprayer – These produce a lower number of small driftable droplets
- Ensure spraying equipment is maintained to a high standard and calibrated on a regular basis

Main Dealers:



Raising standards, raising service

At Downham, near Billericay, Essex the BfS spray technology tradecentre is East Anglia's premier location for spray application products, equipment and spares. Our trained and experienced staff are on hand to service your requirements, offer advice when required and provide friendly after-sales support

We stock spray jets, pumps, Allman sprayer parts, filters, knapsacks, hoses, liquid fertiliser applicators, PPE, weedwipes, measuring jugs, spray tanks, hoses and much, much more.

This catalogue contains details on many of the products that are the most popular and frequently purchased, and also features application rate charts for easy reference.

However, if an item you are seeking is not listed, please contact us as we hold a wide range of other products in stock. Whether your requirements are for a farm, horticultural holding, golf course, sports ground landscaping, local authority purchase or for a private garden, we have the products you need.



12 - 14 School Road
Downham, Billericay,
Essex, CM11 1QU

Tel: 01268 710 237

E-Mail: stores@bfs.uk.com

www.bfs.uk.com