

SINGLE AXIS HEADS

REACTION DRIVE

The washing action is obtained through water jets coming from a rotating head, where the head motion is obtained purely through reaction force originated by the fluid jets being ejected.

The operating pressure influences the head rotation speed, which must be limited to avoid the water jets being broken into minute droplets and losing part of their impact force.

These devices perform very satisfactorily in a great number of general applications, where the products to be washed away do not originate severe problems and with limited size tanks.

To cope with the large variety of industrial applications we offer heads made out completely of stainless steel, out of PTFE, PVDF or a mix of those materials.

Connections are obtained through female thread or easy to clean clip fix slip-on pipe.



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MOTOR DRIVE

A further step in performance with one axis heads performance is obtained with a design where a very simple friction motor provides for low speed rotating head.

This design offers a remarkable advantage because of the lower rotation velocity: the jets remain coherent without being broken into droplets by centrifugal force and all of their impact energy can be transferred to the tank surface.



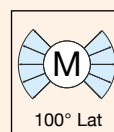
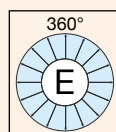
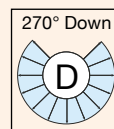
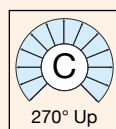
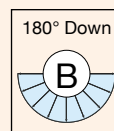
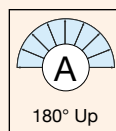
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SPRAY ANGLES

All the spray angle values given in this catalog are to be understood for heads hanging from the tank top and spraying downwards.

Therefore the definitions of Up and Down assigned to a given spray angle of a tankwasher always refer to the same direction as the upper and lower part of the tank, when the tankwasher is located at the tank top.

See the diagrams beside for reference.



CONNECTION DIMENSIONS

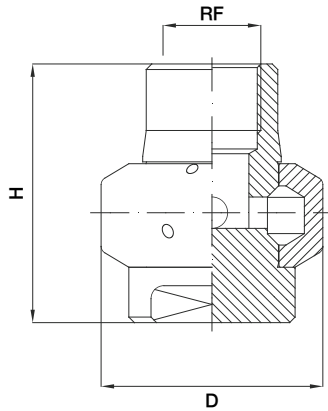
Tankwashers are often requested with a clip connection for quick disassembly and for easy cleaning of the components. They are also available with a weld connection.

Our standard dimensions for these two popular designs are given at page 22.

SINGLE AXIS HEADS

REACTION DRIVE

UBB



UBB heads are specially designed for applications where chemical attack from strong acids is to be expected, or when contamination to the product being handled is to be excluded, and are therefore entirely made out of PTFE.

Their rotary motion is produced from the reaction forces of their solid stream water jets, which are arranged in such a way that the inner tank surface is thoroughly covered when the head rotor is in motion.

The simple design, a two-piece construction, assures for long, maintenance free service.

The wide range of capacities and the choice among several spray patterns makes it easy to find the right product to suite a variety of different applications.

The codes shown in the capacity table refer to BSP threads. Our offices can supply coding for products designed with NPT threads.

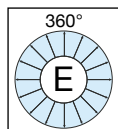
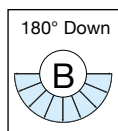
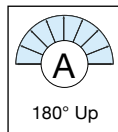
Materials E1 PTFE (FDA approved)

LT 95° C

LP 4.0 bar

BSP Thread Connection

Code	RF BSP	Capacity at different pressures					Size mm	
		1,5	2,0	2,5	3,0	3,5	H	D
UBB 0003 E1xG	1/2"	21,5	24,7	27,5	30,0	32,3	60	50
UBB 0004 E1xG	3/4"	22,9	26,3	29,3	32,0	34,5	70	60
UBB 0007 E1xG		50,2	57,6	64,1	70,0	75,4		
UBB 0012 E1xG		86,0	98,8	110	120	129		
UBB 0018 E1xG		130	150	167	182	196		
UBB 0020 E1xG	1"	143	165	183	200	215	75	70
UBB 0027 E1xG		197	225	252	275	296		
UBB 0035 E1xG		255	292	325	355	382		
UBB 0039 E1xG	2"	283	325	362	395	425	110	125
UBB 0049 E1xG		355	407	454	495	533		
UBB 0059 E1xG		423	486	541	590	635		
UBB 0069 E1xG		495	568	632	690	743		
UBB 0098 E1xG	3"	706	811	902	985	1061	150	175
UBB 0118 E1xG		846	971	1081	1180	1271		
UBB 0138 E1xG		989	1136	1264	1380	1486		



In order to obtain the complet code of the tank washing head, you need to change the "x" letter, in second to last position, with the corresponding letter concerning the spray coverage, among the ones available.

SINGLE AXIS HEADS

UBC

UBC series heads are completely made out of stainless steel, with the rotating sphere rolling on two ball bearing rows, to make operation possible in any position.

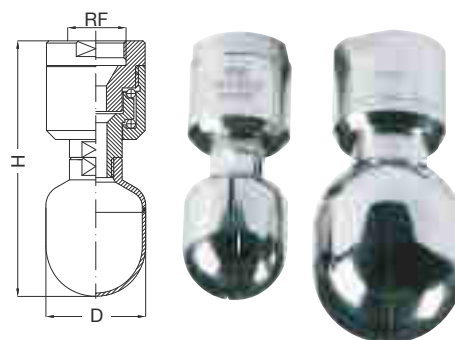
Inner and outer surfaces are carefully machined, deburred, cleaned and polished to a precisely defined roughness grade to avoid contamination from bacterial growth.

UBC series heads are available with different connection designs, that is a female thread and a clip-on connection as standard, a weld-on or a tri-clamp connection on request.

The robust and simple design, the high quality construction, long trouble-free service and remarkable efficiency have made them very popular for general purpose applications, in thousands of applications all over the world.

Materials B31 AISI 316L s.s. (ATEX available)

REACTION DRIVE

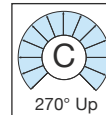
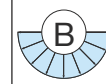


Female BSP Thread

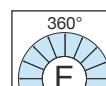
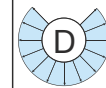
Code	Capacity at different pressures l/min bar				Spray coverage				RF BSP					Size mm	
	2,0	3,0	5,0	7,0	360	270U	270D	180D	3/8"	1/2"	3/4"	1"	1-1/4"	H	D
UBC 2100 B31xG	8,16	10,0	12,9	15,3	•	•	•	•	•					55	25
UBC 2300 B31xG	24,5	30,0	38,7	45,8	•	•	•	•	•						
UBC 2480 B31xG	39,2	48,0	62,0	73,3	•	•	•	•	•					115	45
UBC 2629 B31xG	51,4	63,0	81,3	96,2	•	•	•	•	•						
UBC 2899 B31xG	73,5	90,0	116	137	•	•	•	•	•					131	65
UBC 2630 B31xG	51,4	63,0	81,3	96,2	•	•	•	•	•						
UBC 2900 B31xG	73,5	90,0	116	137	•	•	•	•	•					46	22
UBC 3135 B31xG	110	135	174	206	•	•	•	•	•						
UBC 3120 B31xG	98,0	120	155	183	•	•	•	•	•					RG BSPT	
UBC 3215 B31xG	176	215	278	328	•	•	•	•	•						
UBC 3300 B31xG	245	300	387	458	•	•	•	•	•						



180° Down



270° Down



Male BSPT Thread

Code	Capacity at different pressures l/min bar	Spray coverage				RG BSPT					Size mm				
UBC 2230 B31EGZ	18,9	23,0	29,4	34,5	•					•				H	D
														46	22

Clip-on connection

Available on request with American pin. Last letter of the code: D insted of C.

Code	Capacity at different pressures l/min bar				Spray coverage				Pipe Connection	Clip-on Pipe	Standard	Size mm	
	2,0	3,0	5,0	7,0	360	270U	270D	180D	De x Di (mm)			H	D
UBC 2480 B31xC	39,2	48,0	62,0	73,3	•	•	•	•	22 x 20	3/4"	ASTM A240	70	25
UBC 2630 B31xC	51,4	63,0	81,3	96,2	•	•	•	•	29 x 25,3	DN 25	SMS 3008	135	45
UBC 2900 B31xC	73,5	90,0	116	137	•	•	•	•	29 x 25,3	DN 25	SMS 3008	137	45
UBC 3120 B31xC	98,0	120	154	183	•	•	•	•	29 x 25,3	DN 25	SMS 3008	135	45
UBC 3135 B31xC	110	135	174	206	•	•	•	•	29 x 25,3	DN 25	SMS 3008	137	45
UBC 3178 B31xC	145	178	230	272	•	•	•	•	29 x 25,3	DN 25	SMS 3008	137	44,5
UBC 3300 B31xC	245	300	387	458	•	•	•	•	44 x 38,4	DN 40	SMS 3008	159	65

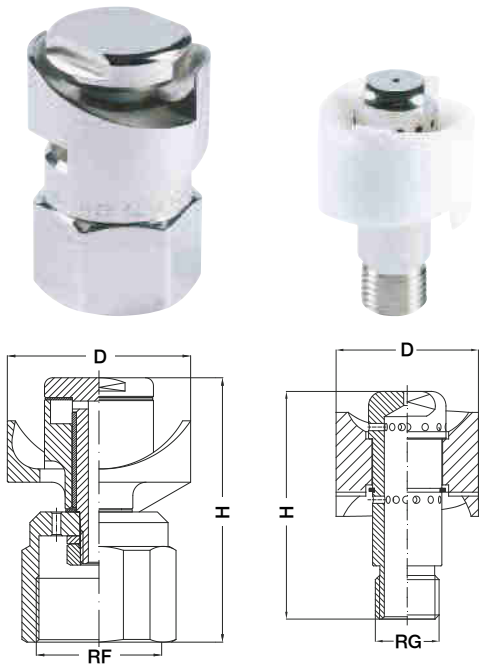
Welded connection

Code	Capacity at different pressures l/min bar				Spray coverage				Pipe Connection	DN	Standard	Size mm	
	2,0	3,0	5,0	7,0	360	270U	270D	180D	De x Di (mm)			H	D
UBC 2200 B31xS	16,3	20,0	25,8	30,6	•	•	•	•	12,7 x 1,65	DN 10	DIN 11866/C	69	25
UBC 2300 B31xW	24,5	30,0	38,7	45,8	•	•	•	•	19,05 x 1,65	DN 15	DIN 11866/C	78	25
UBC 2630 B31xW	51,4	63,0	81,3	96,2	•	•	•	•	25 x 2	DN 25	DIN 11866/C	250	45
UBC 2900 B31xW	73,5	90,0	116	137	•	•	•	•	25 x 2	DN 25	DIN 11866/C	250	45
UBC 3120 B31xS	98,0	120	155	183	•	•	•	•	25 x 2	DN 25	DIN 11866/C	250	45
UBC 3135 B31xV	110	135	174	206	•	•	•	•	29 x 1,5	DN 25	DIN 11866/A	250	45
UBC 3300 B31xW	245	300	387	458	•	•	•	•	38 x 34	DN 40	DIN 11866/C	250	65

SINGLE AXIS HEADS

REACTION DRIVE

UBD

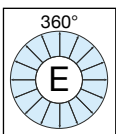
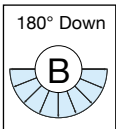
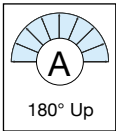


UBD rotary heads can profit from the special design of their rotary head, which allows for a very even water distribution, assuring optimum surface coverage. They assure therefore very short washing cycles, using lower quantities of water, with a definite advantage in those applications where recycled water is not allowed as a washing medium, and the volumes sent to disposal must be kept to a minimum. UBD heads work using Teflon slide bearings floating at high speed over a thin water film, the only wear part being an easily replaceable Teflon washer. Only a fraction of the liquid energy is then used to power the washing head, while the high speed of the rotating disc produces instantly a cloud of high energy droplets all over the inside surface of the tank. The clever design of this device results in no maintenance at all being necessary. Large inside passages are not easily subject to plugging while an extremely simple design with only one moving part avoids any internal jamming. All inside and outside surface are carefully polished, for fast and easy sanitizing. The two following tables give data about types with threaded connection and clip-on types.

Materials
 Body, shaft and rotary head B31 AISI 316L s.s. (ATEX available)
 L61 Hastelloy C22 (ATEX available)

Bearings E1 PTFE

Thread connection



The rotor of 1/4" BSPT model is made of Teflon.

Models with 3/4", 1", 1-1/2" connections can be provided also with NPT thread: in this case, H can be slightly different.

Models with clip-on connection are available on request. See page 22 for the size of UBD clip connections.

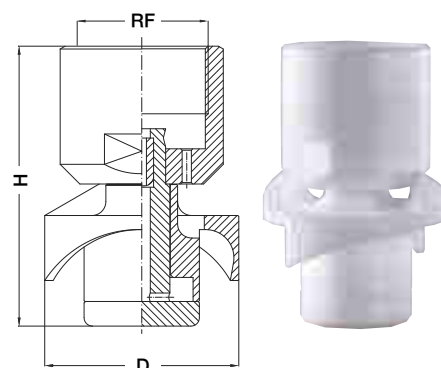
Code	Capacity at different pressures l/min bar					Spray coverage			RG BSPT		RF BSP		Size mm	
	2,0	3,0	4,0	5,0	7,0	180°U	180°D	360°	1/4"	3/4"	1"	1-1/2"	H	D
UBD 0035 B31AG	29,0	35,0	40,0	45,0	53,0	•			•				45	28
UBD 0035 B31BG	29,0	35,0	40,0	45,0	53,0		•		•					
UBD 0035 B31EG	29,0	35,0	40,0	45,0	53,0			•	•					
UBD 0050 B31AG	41,0	50,0	58,0	64,0	76,0	•			•					
UBD 0050 B31BG	41,0	50,0	58,0	64,0	76,0		•		•					
UBD 0050 B31EG	41,0	50,0	58,0	64,0	76,0			•	•					
UBD 0051 B31AG	41,0	50,0	58,0	64,0	76,0	•				•			55	38
UBD 0051 B31BG	41,0	50,0	58,0	64,0	76,0		•			•				
UBD 0051 B31EG	41,0	50,0	58,0	64,0	76,0			•		•				
UBD 0090 B31AG	73,0	90,0	104	116	137	•				•				
UBD 0090 B31BG	73,0	90,0	104	116	137		•			•				
UBD 0090 B31EG	73,0	90,0	104	116	137			•		•				
UBD 0091 B31AG	73,0	90,0	104	116	137	•					•		75	50
UBD 0091 B31BG	73,0	90,0	104	116	137		•			•				
UBD 0091 B31EG	73,0	90,0	104	116	137			•		•				
UBD 0140 B31AG	114	140	162	181	214	•					•			
UBD 0140 B31BG	114	140	162	181	214		•			•				
UBD 0140 B31EG	114	140	162	181	214			•		•				
UBD 0141 B31AG	114	140	162	181	214	•					•		100	70
UBD 0141 B31BG	114	140	162	181	214		•				•			
UBD 0141 B31EG	114	140	162	181	214			•			•			
UBD 0210 B31AG	171	210	242	271	321	•					•			
UBD 0210 B31BG	171	210	242	271	321		•				•			
UBD 0210 B31EG	171	210	242	271	321			•			•			

SINGLE AXIS HEADS

UBD A

REACTION DRIVE

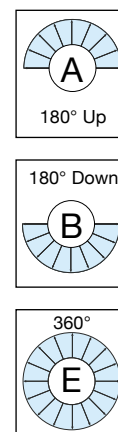
UBD A rotary heads are a simple but very efficient device for the inside cleaning of tanks. The rotary disk is rotated through the action of the cleaning fluid and produces a very dense spray which reaches all parts of the inside surface, it is the only mobile part of the unit and requires no servicing at all. No lubrication is required, and therefore no risk exists of contaminating your product with oil or grease. The device is not easily clogged tanks to a minimum internal passage of 2 mm dia, and will continue to operate even when feed holes are partially closed. Ideally suited for aggressive environments, it operates efficiently with all detergents and chemical solutions, in both closed and open tanks because available with 360 or 180 degrees spray patterns. UBD A models find their application in pharmaceutical, chemical and food industries, where pure PTFE complies with the requirements of FDA CFR21. Models made out of Graphite-filled PTFE do not allow for the build up static electricity and can be employed in atmospheres where an explosion risk occurs.



Materials E1 PTFE pure (FDA approved) LT 95° C
 E11 PTFE + 25% graphite
 D9 PEEK (FDA approved)

Thread connection

Code	Capacity at different pressures					Spray coverage			RF BSP				Size mm	
	2,0	3,0	4,0	5,0	6,0	360	180U	180D	1/4"	3/4"	1"	1-1/2"	H	D
UBD A035 xxEG	28,6	35,0	40,5	45,2	49,5	•			•				47	30
UBD A051 xxEG	41,2	50,0	57,4	63,9	69,7	•				•			55	40
UBD A090 xxEG	73,5	90,0	104	116	127	•				•			49	40
UBD A090 xxAG	73,5	90,0	104	116	127		•			•				
UBD A090 xxBG	73,5	90,0	104	116	127			•		•			75	50
UBD A140 xxEG	114	140	162	180	198	•				•				
UBD A140 xxAG	114	140	162	180	198		•			•				
UBD A140 xxBG	114	140	162	180	198			•		•			100	70
UBD A210 xxEG	171	210	243	271	296	•					•			
UBD A210 xxAG	171	210	243	271	296		•				•			
UBD A210 xxBG	171	210	243	271	296			•			•			

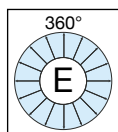


UBD S

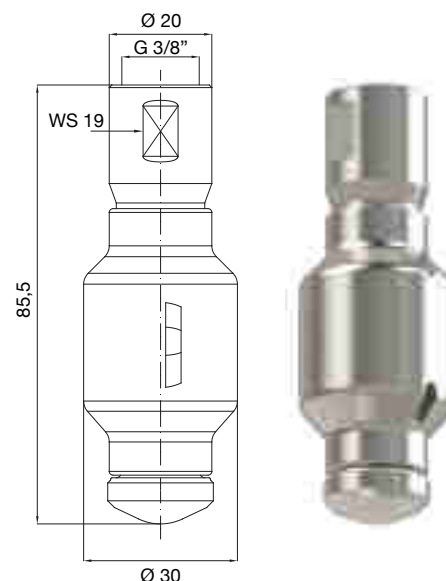
Reaction drive mono-axial head UBD S035 B31EG is totally realized in AISI 316L stainless steel. Moreover, no lubrication is needed, therefore there is no risk of contamination with oils: this product is suitable in applications in food, pharmaceutical and chemical industries.

It has a low capacity and low angular velocity, so it is perfect for washing small and medium size tanks that require longer washing cycles. The easy and strong design, and high quality structure assure a long service and a high efficiency.

Materials B31 AISI 316L s.s.
 Connection 3/8" Female BSP
 LT 95° C



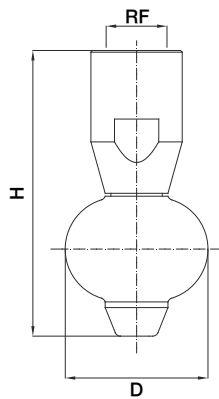
Code	Capacity at different pressures								l/min bar
	2,0	3,0	4,0	5,0	6,0	7,0	10	15	
UBD S035 B31EG	29	35	40	45	50	53	63	76	88



SINGLE AXIS HEADS

REACTION DRIVE

UBX



UBX is a very compact product whose design provides for a specially accurate cleaning of the upper area of the tank around the inlet pipe, which is accomplished by a larger rotating head and straight jets with a well studied and appropriate orientation.

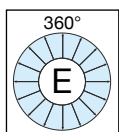
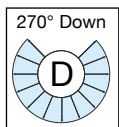
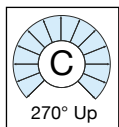
Because of the low flow values, the simple design and the high quality surface finish UBX tankwashers are preferred in such application as washing small volume tanks in pharmaceutical processes.

The rotation is obtained by liquid reaction forces, while the head rotates over a thin liquid film which is self-cleaning.

Connection can be threaded or with standard PNR clip for easy disassembly and cleaning.

Materials Body B31 AISI 316L s.s.
 Rotor E1 PTFE
 E13 PTFE + Carbon
 D9 PEEK (on request)

Thread connection



Code	Capacity at different pressures					l/min bar	Spray coverage			RF BSP				Size mm	
	2,0	3,0	4,0	5,0	6,0		360	270U	270D	1/4"	3/8"	1/2"	3/4"	H	D
UBX A10S B31EG	8,20	10,0	11,6	12,9	14,1	•			•				50	25	
UBX A10A B31DG	8,20	10,0	11,6	12,9	14,1		•		•						
UBX A15S B31EG	12,2	15,0	17,3	19,4	21,2	•			•						
UBX A20C B31CG	16,3	20,0	23,1	25,8	28,3		•		•						
UBX A20S B31EG	16,3	20,0	23,1	25,8	28,3	•			•				60	30	
UBX A20S B31CG	16,3	20,0	23,1	25,8	28,3		•		•						
UBX A20S B31 DG	16,3	20,0	23,1	25,8	28,3			•	•						
UBX A30A B31EG	24,5	30,0	34,6	38,7	42,4	•				•					
UBX A30A B31DG	24,5	30,0	34,6	38,7	42,4			•		•			75	40	
UBX A30S B31EG	24,5	30,0	34,6	38,7	42,4	•				•					
UBX A30S B31CG	24,5	30,0	34,6	38,7	42,4		•			•					
UBX A30S B31DG	24,5	30,0	34,6	38,7	42,4			•		•					
UBX A40A B31EG	32,7	40,0	46,2	51,6	56,6	•					•		100	50	
UBX A40S B31EG	32,7	40,0	46,2	51,6	56,6	•					•				
UBX A40S B31CG	32,7	40,0	46,2	51,6	56,6		•				•				
UBX A40S B31DG	32,7	40,0	46,2	51,6	56,6			•			•				
UBX A50S B31EG	40,8	50,0	57,7	64,5	70,7	•						•			
UBX A70A B31EG	57,1	70,0	80,8	90,4	99,0	•						•			
UBX A70S B31EG	57,1	70,0	80,8	90,4	99,0	•						•			
UBX A70A B31CG	57,1	70,0	80,8	90,4	99,0		•					•			
UBX A70A B31DG	57,1	70,0	80,8	90,4	99,0			•				•			

SINGLE AXIS HEADS

UBF - SMALL DIMENSION WASHING HEADS

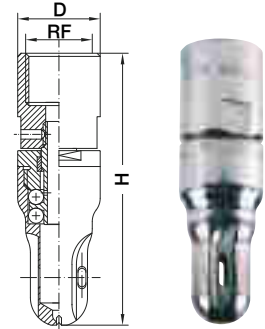
UBF range heads have been designed as small dimensions devices to be operated through small dimension openings and perform such processes as the inside cleaning of any other container where standard washing heads cannot be used. Typically used for cleaning beer kegs, containers for soft drinks or small bore pipes.

Materials B31 AISI 316L s.s. (ATEX available)

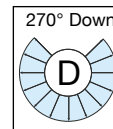
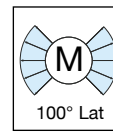
EXCLUSIVE TRUMPET ORIFICE

The new trumpet design of the side orifices allows to obtain a more efficient fan shaped jet, with a well defined spray angle, improving considerably the washing action. Italian and International Patents applied for.

REACTION DRIVE



Code	RF BSP	Capacity at different pressures					l/min bar		Spray coverage		Size mm	
		2,0	3,0	5,0	10	12	100L	270D	H	D		
UBF 2270 B31MG	1/2"	20,0	27,0	36,4	51,5	56,4	•		85	26	100° Lat	
UBF 2270 B31DG		22,0	27,0	36,4	51,5	56,4		•			270° Down	
UBF 2380 B31DG		31,0	38,0	49,2	69,3	76,0		•				



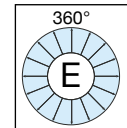
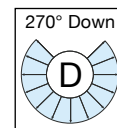
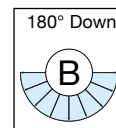
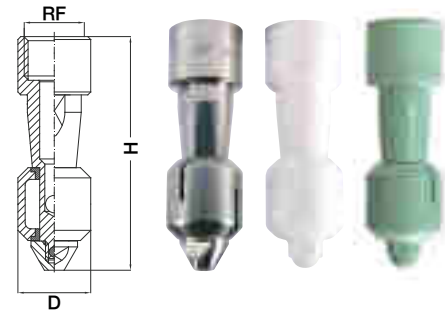
UBF A

Designed for cleaning processes in small bore piping or small size containers and available in a range of different plastic materials and special alloys, as well as with several spray angles.

Materials D82 PVDF (molded)
B31 AISI 316L s.s. (ATEX available)
E1 PTFE (FDA approved)
L61 Hastelloy C22 (ATEX available)



Code	RF BSP	Capacity at diff. pressures			l/min bar			Spray coverage			Size mm	
		2,0	3,0	4,0	180D	270D	360	H	D			
UBF A250 xxBG	1/2"	20,0	25,0	28,8	•			80	25	180° Down		
UBF A250 xxDG		20,0	25,0	28,8		•				270° Down		
UBF A250 xxEG		20,0	25,0	28,8			•			360°		



UBF S

Designed for cleaning processes in very small bore piping or containers, down to 13 mm diameter. The device is available in different materials as well as spray angles.

Materials B31 AISI 316L s.s. (ATEX available)
E1 PTFE (FDA approved)



Code	RF BSP	Capacity at diff. pressures			l/min bar	Spray coverage	Size mm	
		2,0	3,0	4,0	270D	H	D	
UBF S055 xxDG	1/8"	4,50	5,50	6,40	•	32	13	270° Down

