



# 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

## 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



# 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.

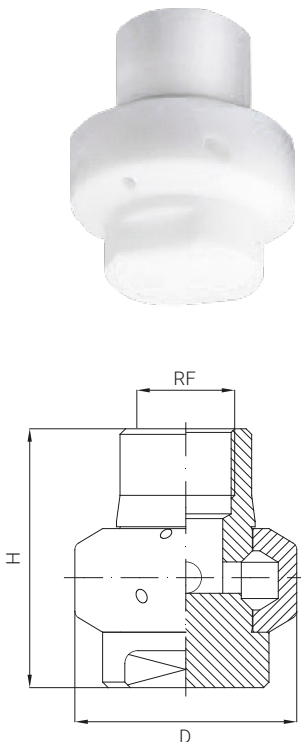
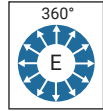
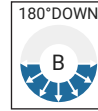
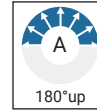
Their rotary motion is produced from the reaction forces of their solid stream water jets, which are arranged in such a way that the inner tank surface is thoroughly covered when the head rotor is in motion. The simple design, a two-piece construction, assures for long, maintenance free service. The 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.

MATERIAL: E1 PTFE (FDA APPROVED)

BSP / NPT  
thread connection

LT: 90° C  
LP: 4.0 BAR



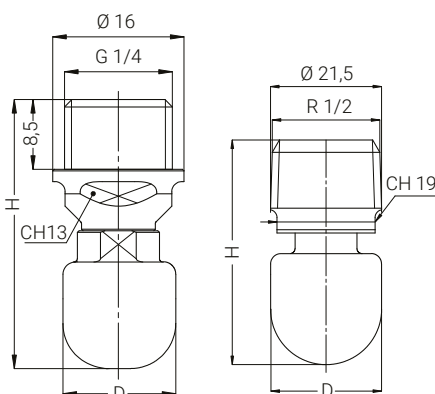
CODE	RF BSP	Capacity at different pressures					Dimensions mm	
		1,5	2,0	2,5	3,0	3,5	H	D
UB B 0003 E1xG	1/2"	21,5	24,7	27,5	30,0	32,3	60	50
UB B 0004 E1xG	3/4"	22,9	26,3	29,3	32,0	34,5	70	60
UB B 0007 E1xG		50,2	57,6	64,1	70,0	75,4		
UB B 0012 E1xG		86,0	98,8	110	120	129		
UB B 0018 E1xG	1"	130	150	167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

# UBC M007 B31BEG | UBC M023 B31DEB

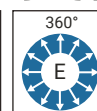
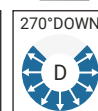
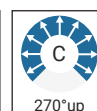
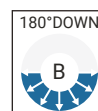
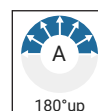
This family of washing heads consists of the smallest models in the UBC range (see next page). They are made entirely of machine-machined steel and designed with similar geometry, differing only in size. Mainly used for washing small ovens, the two available sizes have threaded connection available both BSP (the smallest) and BSPT (the largest). If required, the NPT connection is also available.

MATERIAL: B31 AISI 316L S.S.  
L61 ALLOY C22



Attacco filettato maschio

Washing liquid  
for ATEX products  
T ≤ 90°C



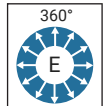
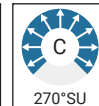
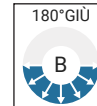
CODE	Capacity l/min at pressure bar				Coverage deg			RG BSP BSPT NPT		Dimens. mm	
	2,0	3,0	5,0	7,0	360	270S	270G	180G	H	D	
UBC M007 B31BEG	5,7	7,0	9,0	10,7	•				1/4" BSP	32,8	14
UBC M023 B31DEB	18,9	23,0	29,4	34,5	•				1/2" BSPT	43,5	21,5

# UBC

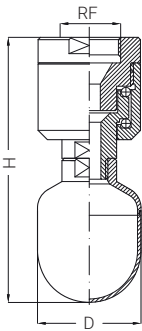
UBC series heads are completely made out of stainless steel, with the rotating sphere rolling on two ball bearing rows, to make operation possible in any position. Inner and outer surfaces are carefully machined, deburred, cleaned and polished to a precisely defined roughness grade to avoid contamination from bacterial growth. UBC series heads are available with different connection designs, that is a female thread and a clip-on connection as standard, on request a weld-on or a *tri-clamp connection (with this configuration, the head cannot be ATEX certified)*. 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. The UBC washing head is also available with an NPT connection.

MATERIAL: B31 AISI 316L STAINLESS STEEL  
L61 ALLOY C22

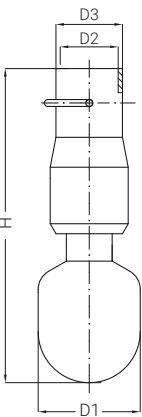
Washing liquid for ATEX products  
T ≤ 90°C



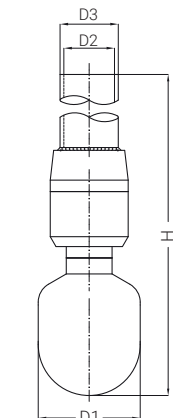
Female BSP or NPT Thread



UBC threaded connect.



UBC clip-on connection



UBC welded connection

CODE	Capacity at different pressures				l/min bar	Spray coverage deg				RF BSP					Dimensions mm	
	2,0	3,0	5,0	7,0		360	270S	270G	180G	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		.	.	.	.	.					115	45
UBC 2480 B31xG	39,2	48,0	62,0	73,3		.	.	.	.	.					131	65
UBC 2629 B31xG	51,4	63,0	81,3	96,2		.	.	.	.	.						
UBC 2899 B31xG	73,5	90,0	116	137		.	.	.	.	.						
UBC 2630 B31xG	51,4	63,0	81,3	96,2		.	.	.	.	.						
UBC 2900 B31xG	73,5	90,0	116	137		.	.	.	.	.						
UBC 3135 B31xG	110	135	174	206		.	.	.	.	.						
UBC 3120 B31xG	98,0	120	155	183		.	.	.	.	.						
UBC 3215 B31xG	176	215	278	328		.	.	.	.	.						
UBC 3300 B31xG	245	300	387	458		.	.	.	.	.						

In case of NPT thread, the last letter of the code will be N instead of G.

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 deg				Pipe connection mm	Clip-on Tubo	Standard	Dimensions mm	
	2,0	3,0	5,0	7,0		360	270S	270G	180G				H	D
UBC 2480 B31xC	39,2	48,0	62,0	73,3		.	.	.	.	22 x 20	3/4"	ASTMA 270	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 deg				Pipe connection mm	DN	Standard	Dimensions mm	
	2,0	3,0	5,0	7,0		360	270S	270G	180G				H	D
UBC 2200 B31xS	16,3	20,0	25,8	30,6		.	.	.	.	12,7 x 9,4	DN 10	DIN 11866/C	69	25
UBC 2300 B31xW	24,5	30,0	38,7	45,8		.	.	.	.	19,05 x 15,75	DN 15	DIN 11866/C	78	25
UBC 2630 B31xW	51,4	63,0	81,3	96,2		.	.	.	.	25,4 x 22,1	DN 25	DIN 11866/C	250	45
UBC 2900 B31xW	73,5	90,0	116	137		.	.	.	.	25,4 x 22,1	DN 25	DIN 11866/C	250	45
UBC 3120 B31xS	98,0	120	155	183		.	.	.	.	25 x 21	DN 25	DIN 11866/C	250	45
UBC 3135 B31xV	110	135	174	206		.	.	.	.	29 x 26	DN 25	DIN 11866/A	250	45
UBC 3300 B31xS	245	300	387	458		.	.	.	.	38 x 34	DN 40	DIN 11866/C	250	65

The version in L61 differs from that in B31 only for the material of realization while the performances, the dimensions and the modalities of connection remain the same.

# UBD

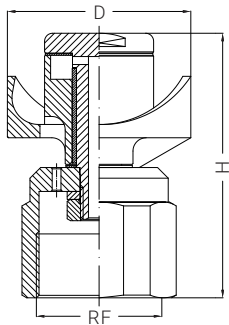
UBD rotary heads can profit from the special design of their rotary head, which allows for a very even water distribution, assuring optimum surface coverage. They assure therefore very short washing cycles, using lower quantities of water, with a definite advantage in those applications where recycled 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. The extremely simple design makes sanitizing quick and easy. Also available with NPT connection.

MATERIAL: BODY, SHAFT AND ROTARY HEAD B31 AISI 316L S.S.  
L61 ALLOY C22  
BEARINGS: E1 PTFE

Washing liquid for ATEX products  
T ≤ 90°C



BSP or NPT threaded connection



UBD 0140

CODE	Flow rate at different pressure l/min bar					Spray coverage deg			RG BSP		RF BSP		Dimensions mm	
	2,0	3,0	4,0	5,0	7,0	180°S	180°G	360°	1/4"	3/4"	1"	1-1/2"	H	D
UBD 0051 B31AG	41,0	50,0	58,0	64,0	76,0	.				.			55	35
UBD 0051 B31BG	41,0	50,0	58,0	64,0	76,0		.			.			55	38
UBD 0051 B31EG	41,0	50,0	58,0	64,0	76,0			.		.			55	38
UBD 0090 B31AG	73,0	90,0	104	116	137	.				.			75	50
UBD 0090 B31BG	73,0	90,0	104	116	137		.			.			75	50
UBD 0090 B31EG	73,0	90,0	104	116	137			.		.			75	50
UBD 0091 B31AG	73,0	90,0	104	116	137	.				.			100	70
UBD 0091 B31BG	73,0	90,0	104	116	137		.			.			100	70
UBD 0091 B31EG	73,0	90,0	104	116	137			.		.			100	70
UBD 0140 B31AG	114	140	162	181	214	.				.			100	70
UBD 0140 B31BG	114	140	162	181	214		.			.			100	70
UBD 0140 B31EG	114	140	162	181	214			.		.			100	70
UBD 0141 B31AG	114	140	162	181	214	.				.			100	70
UBD 0141 B31BG	114	140	162	181	214		.			.			100	70
UBD 0141 B31EG	114	140	162	181	214			.		.			100	70
UBD 0210 B31AG	171	210	242	271	321	.				.			100	70
UBD 0210 B31BG	171	210	242	271	321		.			.			100	70
UBD 0210 B31EG	171	210	242	271	321			.		.			100	70

Models with 3/4", 1", 1-1/2" connections can also be supplied with standard NPT thread: In these cases the value of H may vary slightly and the last letter of the product code will be N instead of G. The version in L61 differs from that in B31 only for the material of realization while the performance, size and connection methods remain the same.

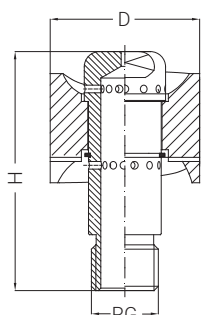
Made without the need for bearings, they are the version of the **UBD range with a 1/4" BSP male thread**. The rotor completely in Teflon reduces friction to a minimum, eliminating any lubrication need. Because of its small size, this head is ideal for the internal washing of small tanks with not too viscous residues. Also available with NPT connection.

MATERIAL: HEAD B31 AISI 316L S.S.  
L61 ALLOY C22  
ROTOR E1 PTFE  
LOCK RING N1 AISI 302

Washing liquid for ATEX products  
T ≤ 90°C



BSP or NPT threaded connection



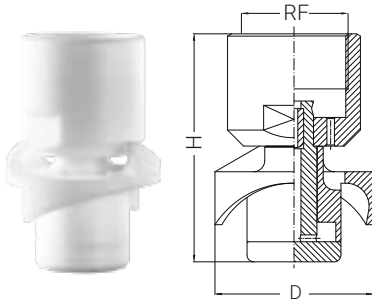
CODE	Flow rate at different pressure l/min bar					Spray coverage deg			RG BSP		RF BSP		Dimensions mm	
	2,0	3,0	4,0	5,0	7,0	180°S	180°G	360°	1/4"	3/4"	1"	1-1/2"	H	D
UBD 0035 B31AG	29,0	35,0	40,0	45,0	53,0	.				.			45	28
UBD 0035 B31BG	29,0	35,0	40,0	45,0	53,0		.			.			45	28
UBD 0035 B31EG	29,0	35,0	40,0	45,0	53,0			.		.			45	28
UBD 0050 B31AG	41,0	50,0	58,0	64,0	76,0	.				.			45	28
UBD 0050 B31BG	41,0	50,0	58,0	64,0	76,0		.			.			45	28
UBD 0050 B31EG	41,0	50,0	58,0	64,0	76,0			.		.			45	28

In case of NPT thread the last letter of the code will be N instead of G. The version in L61 differs from that in B31 only for the material of realization while the performances, the dimensions and the modalities of connection remain the same.

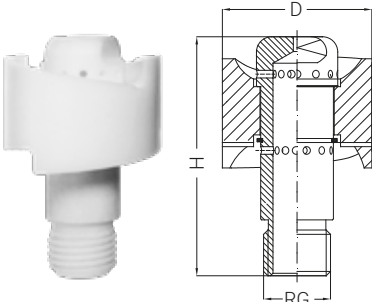
# UBD A

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. 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.

MATERIAL: E1 PTFE PURE (FDA APPROVED)  
 E11 PTFE + 15% GRAPHITE  
 D9 PEEK (FDA APPROVED)



UBD A140



UBD A035

Thread connection

CODE	Flow rate at different pressure					Copertura gradi	RM BSP		RF BSP		Dimensions mm	
	2,0	3,0	4,0	5,0	6,0		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		•				49	40
UBD A090 xxBG	73,5	90,0	104	116	127			•			49	40
UBD A140 xxEG	114	140	162	180	198	•			•		75	50
UBD A140 xxAG	114	140	162	180	198		•		•		75	50
UBD A140 xxBG	114	140	162	180	198			•			75	50
UBD A210 xxEG	171	210	243	271	296	•				•	100	70
UBD A210 xxAG	171	210	243	271	296		•			•	100	70
UBD A210 xxBG	171	210	243	271	296			•		•	100	70

LT: 95° C



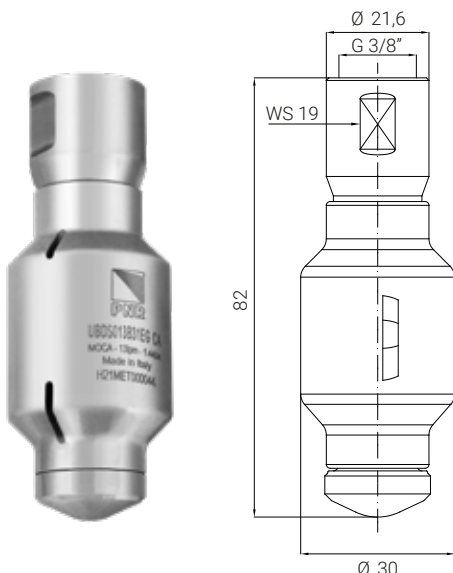
\*UBD A035xxEG has 1/4" male thread.

# 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.

MATERIAL: B31 AISI 316L STAINLESS STEEL  
 CONNECTION: 3/8" BSP FEMALE, CLIP-ON, NPT

Washing liquid for ATEX products  
 T ≤ 90°C P ≤ 10 bar



CODE	Capacity at different pressures							l/min bar
	2,0	3,0	5,0	7,0	10	12	15	
UBD S013 B31E...CA	11	13	17	20	24	26	29	
UBD S018 B31E...CA	15	18	23,3	27,5	33	36	40,2	
UBD S040 B31E...CA	33	40	51,6	61	73	80	89,4	

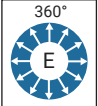
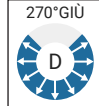
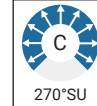
CA at the end of the code is used to differentiate a MOCA certified product from a non-certified one. In case of NPT thread the letter G of the code will become N, while in case of Clip connection it will become C (SMS 3008 standard) or D (ASTM A269/A213). We recommend using at least 100 mesh filter. The flow rate refers to the threaded model.

# UBX

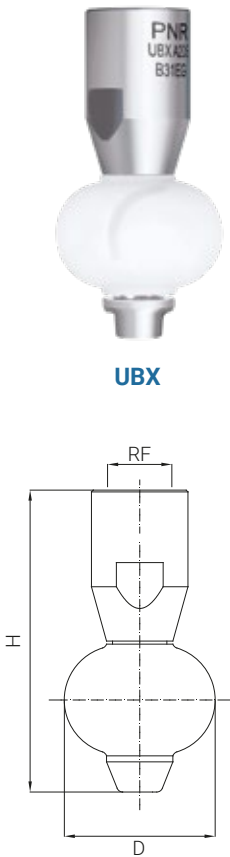
UBX is a very compact product whose design provides for a specially accurate cleaning of the upper area of the tank around the inlet pipe, which is accomplished by a larger rotating head and straight jets with a well studied and appropriate orientation. Because of the low flow values, the simple design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

MATERIALI: BODY B31 AISI 316L STAINLESS STEEL  
 ROTOR E1 PTFE  
 E13 PTFE + CARBON  
 D9 PEEK (ON REQUEST)



Thread connection



CODE	Capacity at different pressures					Spray coverage deg			RF BSP				Dimensions mm		
	2,0	3,0	4,0	5,0	6,0	360	270S	270G	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	.			.						
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	.			.			60	30		
UBX A30A B31DG	24,5	30,0	34,6	38,7	42,4		.		.						
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	.			.			75	40		
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	.			.			100	50		
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			.	.						



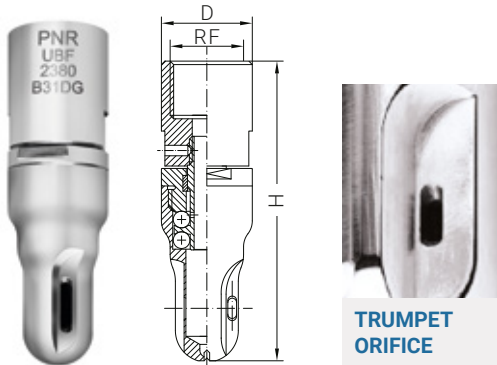
PNR Italia is introducing on the market its classic products made of **MDT material (magnetically detectable thermoplastics)** and specifically **PPh (polypropylene homopolymer)**. MDT compounds are created to be detected by any type of detector, even when present in very small parts, making them suitable for metal replacement. MDT compounds are traceable by all metal detectors on the market (both fixed magnet and balanced coil ones), unlike compounds loaded with ferromagnetic powders. Furthermore, the MDT compounds do not use steel fibers or metal powders, and they do not contain carbon, graphite or carbon black fibers. Thanks to these characteristics, components manufactured with MDT do not release, in operation, powders or particles that are difficult to confine and therefore capable of dispersing in the working atmosphere and remotely contaminating the process or finished products. MDT products are suitable for contact with food, and are produced in dark blue color in order to be better identified in any circumstance.



# 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. Also available with NPT connection.

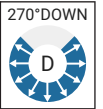
MATERIAL: B31 AISI 316L STAINLESS STEEL + BEARINGS PTFE  
L61 ALLOY C22



TRUMPET ORIFICE

**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.

Washing liquid for ATEX products  
T ≤ 90°C  
P ≤ 10 bar



BSP or NPT threaded connection

CODE	RF BSP	Capacity at different pressures					Spray coverage deg		Dimensions mm	
		2,0	3,0	5,0	10	12	100L	270G	H	D
UBF 2270 B31 LG	1/2"	20,0	27,0	36,4	51,5	56,4	•		85	26
UBF 2270 B31DG		22,0	27,0	36,4	51,5	56,4		•		
UBF 2380 B31DG		31,0	38,0	49,2	69,3	76,0		•		

In case of NPT thread the last letter of the code will be N instead of G. The version in L61 differs from that in B31 only for the material of realization while the performances, the dimensions and the modalities of connection remain the same.

## UBF A

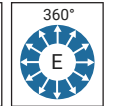
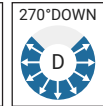
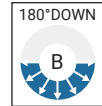
Designed for cleaning processes in small bore piping or small size containers and available in a range of different plastic materials and special alloys, as well as with several spray angles. Also available with NPT connection.

MATERIAL: D82 PVDF (MOLDED)  
B31 AISI 316L STAINLESS STEEL + BEARINGS PTFE  
E1 PTFE (FDA APPROVED)  
L61 ALLOY C22 + BEARINGS PTFE

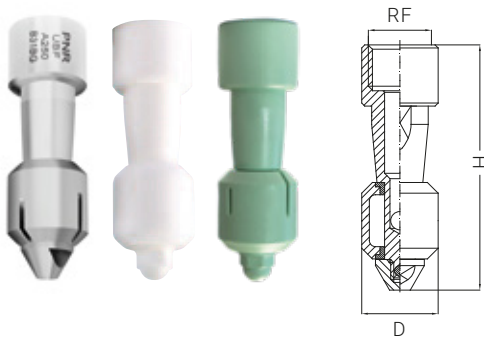
Washing liquid for ATEX products  
T ≤ 90°C



only for: AISI 316L Alloy C22



BSP or NPT threaded connection

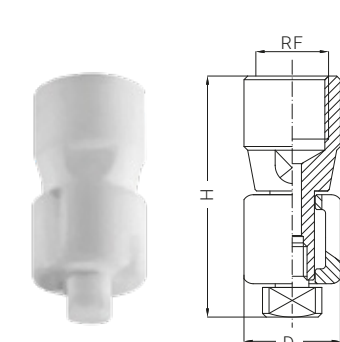


CODE	RF BSP	Capacity at diff. pressures			Spray coverage deg			Dimensions mm	
		2,0	3,0	4,0	180G	270G	360	H	D
UBF A250 xxBG	1/2"	20,0	25,0	28,8	•			80	25
UBF A250 xxDG		20,0	25,0	28,8		•			
UBF A250 xxEG		20,0	25,0	28,8			•		

In case of NPT thread the last letter of the code will be N instead of G. The version in L61 differs from that in B31 only for the material of realization while the performances, the dimensions and the modalities of connection remain the same.

## UBF S

The smallest type of the series, with an external diameter of only 13 mm. Available in stainless steel and Teflon, and with NPT connection.



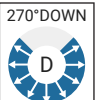
MATERIAL: B31 AISI 316L S.S.  
L61 ALLOY C22  
E1 PTFE (FDA APPROVED)

BSP or NPT threaded connect.

Washing liquid for ATEX products  
T ≤ 90°C



only for: AISI 316L Alloy C22



CODE	RF BSP	Capacity at diff. pressures			Spray coverage deg	Dimensions mm	
		2,0	3,0	4,0	270G	H	D
UBF S055 xxDG	1/8"	4,50	5,50	6,40	•	32	13

In case of NPT thread the last letter of the code will be N instead of G. The version in L61 differs from that in B31 only for the material of realization while the performances, the dimensions and the modalities of connection remain the same.

# UBA

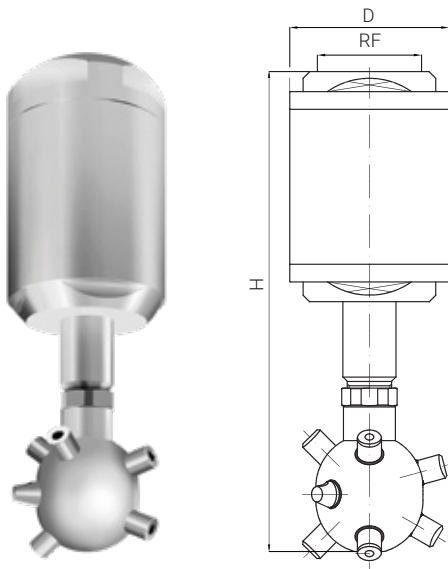
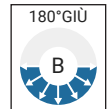
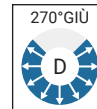
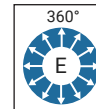
UBA series heads operate producing water jets out of a spray head rotating around a vertical axis, but feature a sophisticated design where the head is put in slow motion by a simple friction transmission. As the motor produces a low rotation velocity, the jets can work with their maximum efficiency since not being broken into droplets: this makes it possible to obtain a higher impact force onto the tank wall. The head design can include one jet directed upwards which is meant to clean the tank roof area around the feed pipe, a difficult area in many instances, realizing then a true 360° spray pattern.

Superior cleaning power, faster cleaning cycles and lower volumes of cleaning solution required. UBA washing heads are available in two sizes, and three different jet patterns, as shown below. Rotation speed varies, depending upon feed pressures, between 5 and 12 rpm. Thread connection are available both in BSP standard (last letter of the code: G) and NPT standard (last letter of the code: N).

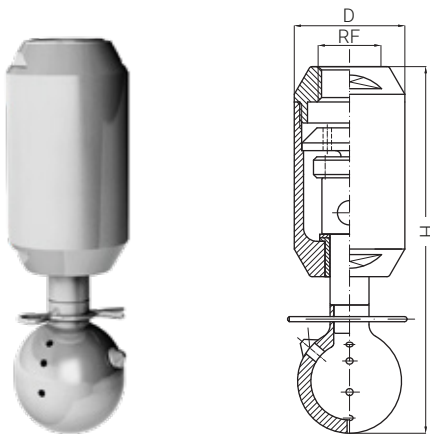
MATERIAL:	BODY, SPHERE	B31	AISI 316L STAINLESS STEEL
		L61	ALLOY C22
		E1	PTFE (ONLY MODEL 3150)
	BUSHINGS	E1	PTFE
	MOTOR RING	E1	PTFE

Washing liquid for ATEX products  
T ≤ 90°C

**Ex** only for: AISI 316L Alloy C22



UBA 3150



UBA 2500

CODE	RF BSP	Capacity at different pressures				Spray coverage deg			Dimensions mm	
		3,0	5,0	7,0	10	180G	270G	360	H	D
UBA 2500 B31BG	3/4"	50,0	64,5	76,3	91,3	.			166	50
UBA 2500 B31DG		50,0	64,5	76,3	91,3		.			
UBA 2500 B31EG		50,0	64,5	76,3	91,3			.		
UBA 3150 B31EG	1-1/2"	110	142	168	200			.	216	71

The UBA washing head is designed to accommodate in its sphere a wide variety of nozzles, both in number and type of spray (i.e., dart jet, blade, etc.). Each of these customizations involves, compared to the versions in the table, a variation also consistent with the performance, which will be provided from case to case.

In case of NPT thread the last letter of the code will be N instead of G. The version in L61 differs from that in B31 only for the material of realization while the performances, the dimensions and the modalities of connection remain the same.



**SUMMARY TABLE (HIGH-PRESSURE AND SPECIAL PRODUCTS ARE EXCLUDED)**

SERIES	CONNECTIONS	MATERIALS	FLOW RATE RANGE (lpm)
<b>UBT</b>	threaded (1")	316L s.s.	88,0 ÷ 162
<b>UBA</b>	threaded (3/4" or 1-1/2")	316L s.s., PTFE	50,0 ÷ 273
<b>UBD S</b>	threaded (3/8"), clip-on	316L s.s.	11,0 ÷ 112,0
<b>UBB</b>	threaded (1/2" ÷ 3")	PTFE	21,5 ÷ 1486
<b>UBC</b>	threaded (3/8" ÷ 1-1/4"), clip-on, welded	316L s.s.	8,16 ÷ 458
<b>UBD</b>	threaded (1/4" ÷ 1-1/2")	316L s.s. Hastelloy C22	29,0 ÷ 321
<b>UBD A</b>	threaded (1/4" ÷ 1-1/2")	PTFE, PEEK PTFE + 25% grafite	28,6 ÷ 296
<b>UBF</b>	threaded (1/2")	316L s.s.	20,0 ÷ 76,0
<b>UBF A</b>	threaded (1/2")	316L s.s., PVDF, PTFE Hastelloy C22	20,0 ÷ 28,8
<b>UBF S</b>	threaded (1/8")	316L s.s. PTFE	4,50 ÷ 6,40
<b>UBX</b>	threaded (1/4" ÷ 3/4")	316L s.s., PTFE, PEEK	16,3 ÷ 99,0
<b>UA3</b>	clip-on	316L s.s.	31,6 ÷ 183
<b>UAB</b>	threaded (1/2")	303 s.s., 316L s.s.	18,0 ÷ 187
<b>UAC</b>	threaded (1/8" ÷ 1-1/4"), clip-on, welded	316L s.s., Hastelloy C267 Titanium Gr2	14,0 ÷ 1412
<b>CH</b>	threaded (3/4" ÷ 2")	303 s.s., 316L s.s. Brass	26,0 ÷ 480

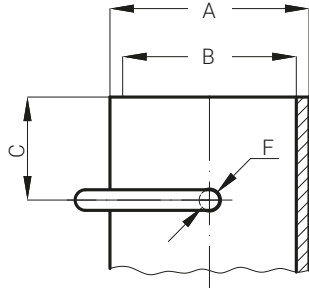
OPERATING PRESSURE (bar)	MAX WETTING RADIUS (m)	COVERAGE SPRAY PATTERNS
4,0 / 10,0	11,0	360° E
3,0 / 10,0	5,0	360° E, 270°DOWN D, 180°DOWN B
2,0 / 12,0	3,0	360° E
1,5 / 3,5	4,0	360° E, 180°UP A, 180°DOWN B
2,0 / 7,0	3,2	360° E, 180°UP A, 270°UP C, 270°DOWN D, 180°DOWN B
2,0 / 7,0	4,8	360° E, 180°UP A, 180°DOWN B
2,0 / 6,0	3,0	360° E, 180°UP A, 180°DOWN B
2,0 / 12,0	1,5	270°DOWN D, 100°LAT L, 270°DOWN D
2,0 / 4,0	2,5	360° E, 270°DOWN D, 180°DOWN B
2,0 / 4,0	0,8	270°DOWN D
2,0 / 6,0	3,5	360° E, 270°UP C, 270°DOWN D
1,0 / 2,5	3,5	360° E, 180°UP A, 270°UP C, 180°DOWN B
2,0 / 5,0	3,5	240°DOWN S
1,0 / 2,5	3,5	360° E, 180°UP A, 270°UP C, 100°LAT L, 270°DOWN D, 180°DOWN B
1,0 / 10,0	8,0	360° E, 200°DOWN Z

## THREADED CONNECTIONS

The threads available for the washing devices in the catalogue with the relevant reference standards are listed below.

<b>G</b>	<b>Gas</b>	<b>ISO 228-1:2003</b>
<b>N</b>	NPT	TSII TCON07:2006
<b>B</b>	BSPT	UNI EN 10226:2006

## CLIP CONNECTION SIZE



	A	B	C	F
<b>UBC <math>\phi</math> 25 (UBC xxxx MMxC)</b>	22,0	20,0	9,0	2,5
<b>UBC <math>\phi</math> 45 (UBC xxxx MMxC)</b>	29,0	25,3	15,0	3,2
<b>UBC <math>\phi</math> 65 (UBC xxxx MMxD)</b>	44,0	38,4	15,0	3,2
<b>UBD xxxx MMxC</b>	33,0	25,5	9,0	2,5
<b>UBD xxxx MMxD</b>	33,0	25,7	9,0	2,5

There is a number of different dimensions standards relating to clip-on connections on different markets, and between Europe and America. We have therefore identified with our Customers the most commonly requested types and have standardized as follows.

### UAC, FIXED SPRAY HEADS

Drawings and sizes are available at pages 5 and 6: these will be the future sizes for every PNR device with clip-on connection, and they are based on DN (nominal diameter), as defined by European standards.

### UBC AND UBD, REACTION DRIVE HEADS

For the two above product types clip-on connections will maintain specifications used until present time. The diagram and the table showing the dimensions for the two product types on the different markets is shown below, and covers both European pipe dimensions (last letter of the code: C) and American (last letter of the code: D).

The variety of applications of stainless steel pipes/tubes, welded or seamless, generated several Regulations related to diameters, thicknesses, methods of production and finishing, surface quality, acceptance criteria. Recently, the authorities in charge tried to simplify such regulatory vastness with Standard DIN 11866 dated June 2016 which we report here below for what concerns the dimensional part. The norm is divided into three Ranges:

- *Range A*: pipe dimensions according to DIN EN 10357 extended by DN6 and DN8 (includes also previous standard DIN 11850);
- *Range B*: pipe dimensions according to DIN EN ISO 1127 (includes also previous standards DIN 2642 for seamless pipes and DIN 2643 for welded pipes);
- *Range C*: pipe dimensions according to ASME-BPE 2009.

### NOTE

For the dimensioning of its tank washing heads, PNR adopts and uses DIN 11866:2016 as a reference standard, unless otherwise specifically requested by Customers. Standard DIN 11866:2016 does not include all previous Norms and measurement standards. Therefore, in this catalogue, it is possible to find references to dimensions of standards that are not included.

DIN 11866 Range A / 304L - 316L		
De (mm)	Thickness	DN
8,00	1,00	DN6
10,0	1,00	DN8
13,0	1,50	DN10
19,0	1,50	DN15
23,0	1,50	DN20
29,0	1,50	DN25
35,0	1,50	DN32
41,0	1,50	DN40
53,0	1,50	DN50
70,0	1,50	DN65
85,0	2,00	DN80

DIN 11866 Range B / 304L - 316L		
De (mm)	Thickness	DN
10,2	1,60	DN6
13,5	1,60	DN8
17,2	1,60	DN10
21,3	1,60	DN15
26,9	1,60	DN20
33,7	2,00	DN25
42,4	2,00	DN32
48,3	2,00	DN40
60,3	2,00	DN50
76,1	2,00	DN65
88,9	2,30	DN80

DIN 11866 Range C / 304L - 316L			
De (mm)	Thickness	DN	Rif.to
6,35	0,89	DN8	1/4"
9,53	0,89	DN10	3/8"
12,7	1,65	DN15	1/2"
19,05	1,65	DN20	3/4"
25,4	1,65	DN25	1"
38,1	1,65	DN40	1-1/2"
50,8	1,65	DN50	2"
63,5	1,65	DN65	2-1/2"
76,2	1,65	DN80	3"

## ABBREVIATIONS

<b>De</b>	EXTERNAL DIAMETER	mm	<b>DN</b>	DIAMETRO NOMINAL DIAMETER		<b>Q</b>	CAPACITY	l/min
<b>Di</b>	INNER DIAMETER	mm	<b>H, H1</b>	HEIGHT	mm	<b>RF</b>	CYLINDRICAL FEM BSP THREAD	poll
<b>Dia</b>	ORIFICE DIAMETER	mm	<b>L, L1</b>	WIDHT	mm	<b>RG</b>	CONICAL MALE BSPT THREAD	poll
			<b>LP</b>	MAX WORKING PRESSURE	bar	<b>W</b>	WEIGHT	kg
			<b>LT</b>	MAX WORKING TEMP.	°C	<b>WR</b>	WETTING RADIUS	m

### PRODUCT WARRANTY

PNR products will be replaced or repaired at the option of PNR and free of charges if found defective in manufacturing, labelling and packaging. The above conditions will apply if notice of defects is received by PNR within 30 days from date of product installations or one year from date of shipment.

The cost of above said replacement or repair shall be the exclusive remedy for any breach of any warranty, and PNR shall not be held liable for any damage due to personal injuries or commercial losses coming from product malfunction. It is self-understood that no warranty may apply in case our products have been operated under nonacceptable conditions, like for example (but not limited to):

- Operation at pressures exceeding those shown in catalogue performance table
- Operation with or exposure to liquids containing abrasive particles
- Operation with or exposure to liquids producing a chemical attack on the nozzle material
- Mechanical damages to nozzle orifices, nozzle spray edge or body due to careless handling or assembling.

In all above cases, the customer must accept a nozzle life reduction below life expected, or performance parameters below the values in the catalogue.

The guarantee may be exercised as follows:

1. By sending a precautionary report to PNR on the detected damages. This report can also be sent by email to this address: [quality@pnr.it](mailto:quality@pnr.it)
2. If PNR ascertains that the manufacturing faults are actually subject to the warranty, the product shall have be returned to the manufacturer in its original packaging prior request of authorization to the manufacturer and receipt of manufacturer's written authorization.
3. The rejected goods shall have be returned by the means that PNR will communicate to the customer and the transportation costs of returned merchandise will be entirely borne by the manufacturer.

Our products are manufactured with the best care and according to the latest developments of the technology available. However we cannot assure that every one of our products is perfectly fit for every specific application. The information in this catalogue is provided "as seen" and so we offer no warranty of any kind with respect to the subject matter or accuracy of the information contained herein. This publication may include technical inaccuracies or typographical errors and changes may be periodically made to the information herein without prior notice.

### CERTIFICATIONS



#### 3-A

PNR Italia srl is authorized to use the 3-A Symbol to the tank washing head code UA3 xxxx B31 xCx, conforming to 3-A Sanitary Standard 78-01 (Spray Cleaning Devices Intended to Remain In Place).



#### ATEX

Single-axis rotary spray balls UBA, UBC, UBD, UBF, UBF-A, UBF-S and UBT are available in ATEX ("Atmosphères explosibles") version, in conformity with European Community Directive 2014/34/EU that determine compliance with the essential safety requirements for equipment and protection systems intended for use in potentially explosive atmospheres. ATEX version is available, on request, for tank washing heads made of AISI 316L s.s. or Hastelloy C22.



#### MOCA

Tank washing heads produced exclusively in AISI 316L s.s. and / or pure PTFE are available in MOCA version ("Materials and objects in contact with food"), in accordance with the Framework Regulation 1935/2004 and Regulation 2023/2006, which establish the criteria of traceability and processing of materials.

The MOCA version is available on customer's request for the washing heads produced in AISI 316L s.s., pure PTFE or with both materials.