

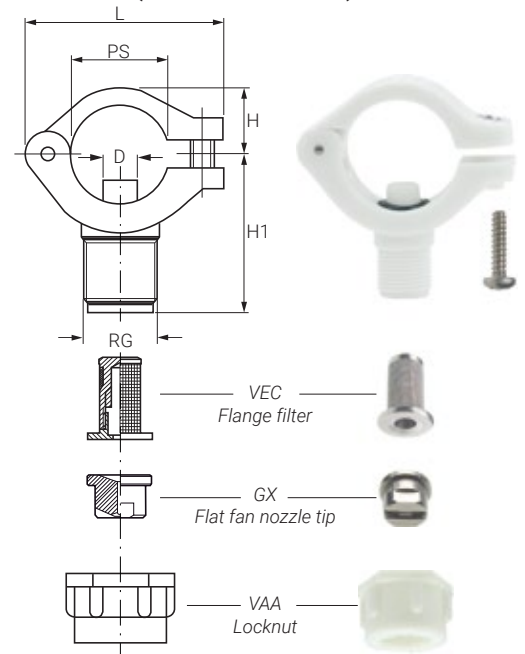
(PIPE CLAMPS) ZPB

PLASTIC PIPE CLAMPS

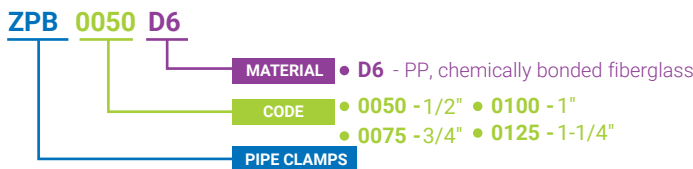
ZPB plastic pipe clamps allow a quick, professional and convenient instalment of GX, BX or KX flanged nozzles onto manifolds. Using these clamps it's not necessary to weld nipples or use thick pipes, all you need is one hole in the pipe. ZPB body is made in PP reinforced glass fiber while screws and bolts are in stainless steel AISI 316 to assure a good corrosion resistance. VEA, VEC and VED flanged filters are available on request to prevent clogging.

TYPICAL APPLICATIONS	Pre-treatment for coating process Parts cleaning
MAX WORKING TEMPERATURE	LT 90°C
MAX WORKING PRESSURE	LP 8 bar
MATERIAL	Body D6 PP, chemically bonded fiberglass O-ring E8 NBR Metal parts B2 AISI 304 Stainless Steel

CODE	RG inch	PS inch	PD mm	D mm	H mm	H1 mm	L mm	W g
ZPB 0050 D6SG	3/8"	1/2"	21 / 22	7,60	15,0	36,0	44,5	20,0
ZPB 0074 D6SG		-	25	7,60	19,0	39,0	51,5	24,0
ZPB 0075 D6SG		3/4"	26 / 27	7,60	19,0	39,0	51,5	26,0
ZPB 0100 D6SG		1"	33 / 34	10,0	23,0	46,0	62,0	30,0
ZPB 0125 D6SG		1-1/4"	42 / 43	12,0	35,0	55,0	85,0	75,0



HOW TO MAKE UP THE PRODUCT CODE Ex.: ZPB 0050 D6



(PLASTIC BAYONET PIPE CLAMPS) ZPC

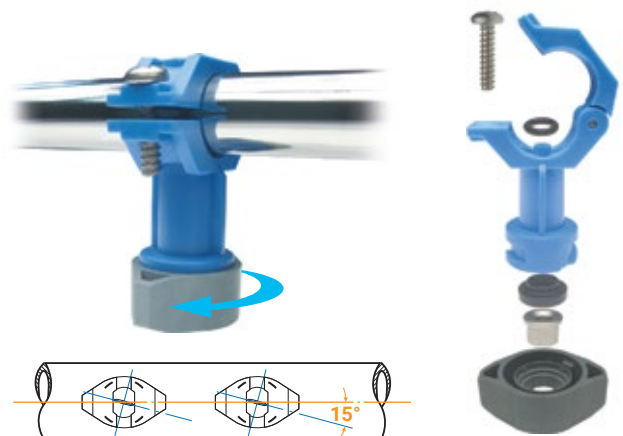
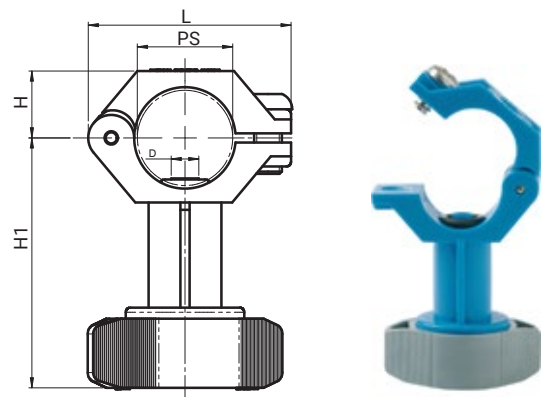
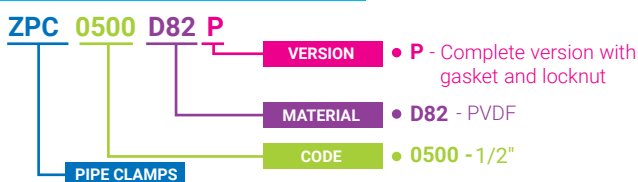
PLASTIC BAYONET PIPE CLAMPS

ZPC plastic bayonet pipe clamps serve for a quick and easy instalment of GX type flat fan flanged nozzles. No need to weld nozzles or use thick pipes to thread. It's sufficient to make a hole in the pipe and fix the clamp in. The clamp body is in PVDF while screws and bolts are in stainless steel AISI 316, suitable for high temperatures. Their quick-fit cap is easy to disassemble for cleaning. The flat fan orientation has an offset angle of 10° from the main manifold axis to avoid jets overlapping.

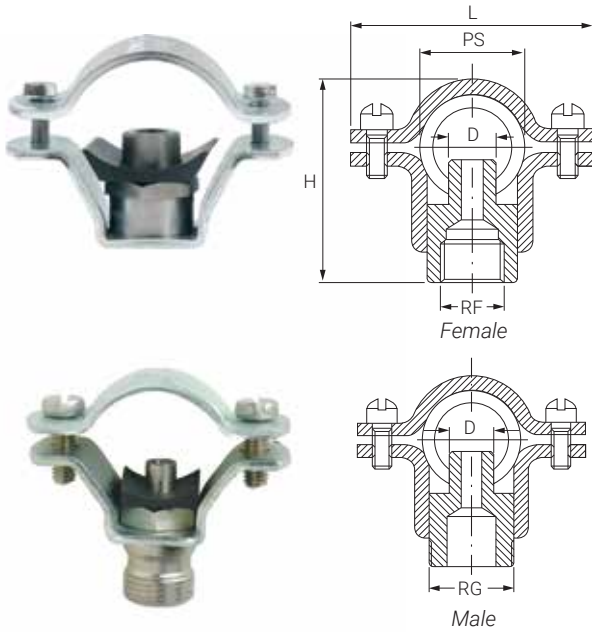
TYPICAL APPLICATIONS	PCB wet process Pre-treatment for coating process
PIPE SIZE	PS 1/2"
MAX WORKING TEMPERATURE	LT 90°C
MAX WORKING PRESSURE	LP 8 bar
MATERIAL	Body D82 PVDF, moulded O-ring E7 Viton Metal parts B3 AISI 316 Stainless Steel

CODE	PS inch	PD mm	D mm	H mm	H1 mm	L mm	W g
ZPC 0500 D82P	1/2"	20/22	6.0	14.5	54.0	44.0	45.0

HOW TO MAKE UP THE PRODUCT CODE Ex.: ZPC 0500 D82P



ZPM (METAL PIPE CLAMPS)



METAL PIPE CLAMPS

ZPM metal pipe clamps are suitable for a quick, easy and safe installation of various types of nozzles on pipes. They can be fit into a pipe simply by making a hole on it. As it's not necessary to thread thick pipes or weld the nozzles, these clamps assure a relevant time and costs saving.

THREAD SIZE	1/8", 1/4", 3/8", 1/2"
CONNECTION	BSP, NPT
TYPICAL APPLICATIONS	Pre-treatment for coating process Exhaust Scrubber
PIPE SIZE	PS 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2"
MAX WORKING TEMPERATURE	LT 80 °C
MAX WORKING PRESSURE	LP 20 bar
MATERIAL	Body Screws Nipples Gasket
	B2 AISI 304 Stainless Steel A8 Zinc coated steel B2 AISI 304 Stainless Steel B31 AISI 316L Stainless Steel T1 Brass E0 EPDM



ZPM Metal clamps
+
PF Hollow cone nozzle

CODE	PS inch	RF/RG inch	LP bar	LQ l/min	D mm	H mm	L mm
ZPM 0050 xxAW	1/2"	1/8"	17	11	7	40	49
ZPM 0050 xxBW		1/4"				48	
ZPM 0050 xxUW		3/8"				48	
ZPM 0075 xxAW	3/4"	1/8"	17	11	7	45	58
ZPM 0075 xxBW		1/4"				48	
ZPM 0075 xxUW		3/8"				53	
ZPM 0100 xxAW	1"	1/8"	17	11	7	45	65
ZPM 0100 xxBW		1/4"				48	
ZPM 0100 xxUW		3/8"				53	
ZPM 0125 xxYW	1 1/4"	1/4"	9	45	18	68	71
ZPM 0125 xxYW		3/8"				68	
ZPM 0125 xxYW		1/2"				71	
ZPM 0150 xxYW	1 1/2"	1/4"	9	45	18	72	90
ZPM 0150 xxYW		3/8"				72	
ZPM 0150 xxYW		1/2"				75	
ZPM 0200 xxYW	2"	1/4"	9	45	18	85	100
ZPM 0200 xxYW		3/8"				85	
ZPM 0200 xxYW		1/2"				88	
ZPM 0250 xxYW	2 1/2"	1/4"	9	45	18	110	118
ZPM 0250 xxYW		3/8"				110	
ZPM 0250 xxYW		1/2"				113	

CODE COMPLEMENTS

Ex.: ZPM 0050 A8 AA

Replace xx and YW in the above codes as shown below

NOTE: Nipple thread (letter Y) can be 3/8" BSP F (letter C) or 1/2" BSP F (letter D) only for pipe sizes (PS in the above table) equal or greater than 1-1/2".

ZPM 0050 xx Y W

XX	FOR CLAMP MATERIAL	Y	FOR NIPPLE THREAD	W	FOR NIPPLE MATERIAL
A8	Zinc coated steel	A	1/8" BSP Female	A	Brass
B2	AISI 304	B	1/4" BSP Female	B	AISI 303
		C	3/8" BSP Female	C	AISI 316L
		D	1/2" BSP Female		
		U	3/8" BSP Male		

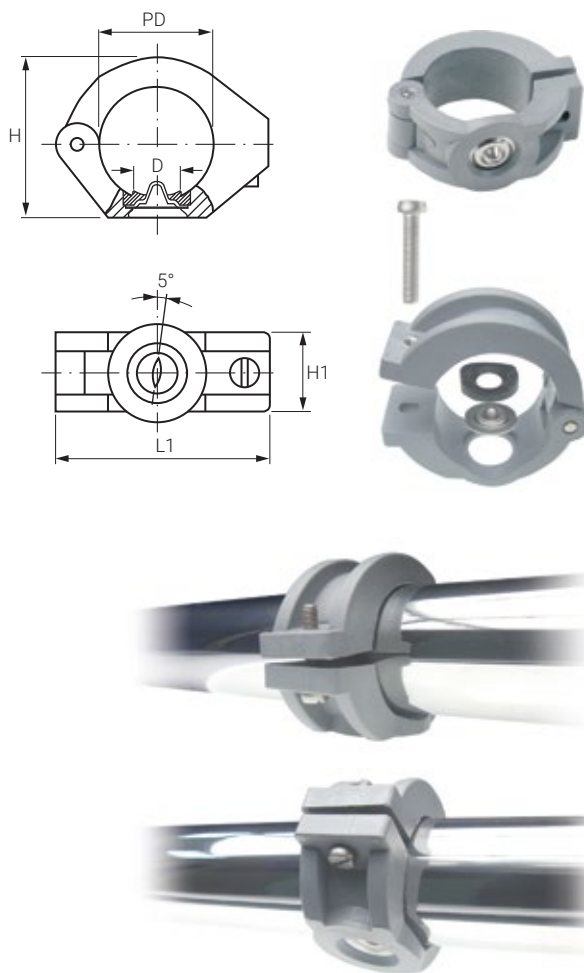
(DISK NOZZLE PIPE CLAMP) ZPH

DISK NOZZLE PIPE CLAMP

ZPH pipe clamps are specially designed for the quick and easy instalment of disc nozzles onto pipes. These clamps are very convenient as there's no need to buy expensive metal tips or welded nozzle tips.

You must drill a 19 mm diameter hole on the pipe, insert the clamp into it and fix it with screws. Their design, which allows to position the disc nozzles with a 5° offset angle, assures a proper jet orientation. These clamps avoid spray jets interference and are ideal for nozzles cleaning steel brushes.

MAX WORKING TEMPERATURE	LT	90°C		
MAX WORKING PRESSURE	LP	7 bar		
FITTING DIMENSIONS	Outer pipe diameter	50 mm		
	Inner pipe diameter	47 mm		
	Feed hole	19 mm		
MATERIAL	Fascetta	D6	PP, chemically bonded fiberglass	
	Perno, vite	B3	AISI 316 Stainless Steel	
TYPICAL APPLICATION			Paper machines self-cleaning pipes	



CODE	PD mm	D mm	H mm	H1 mm	L1 mm
ZPH 0150 D6	52	19	70	34	91

HOW TO MAKE UP THE PRODUCT CODE Ex.: ZPH 0150 D6



LOCKNUTS

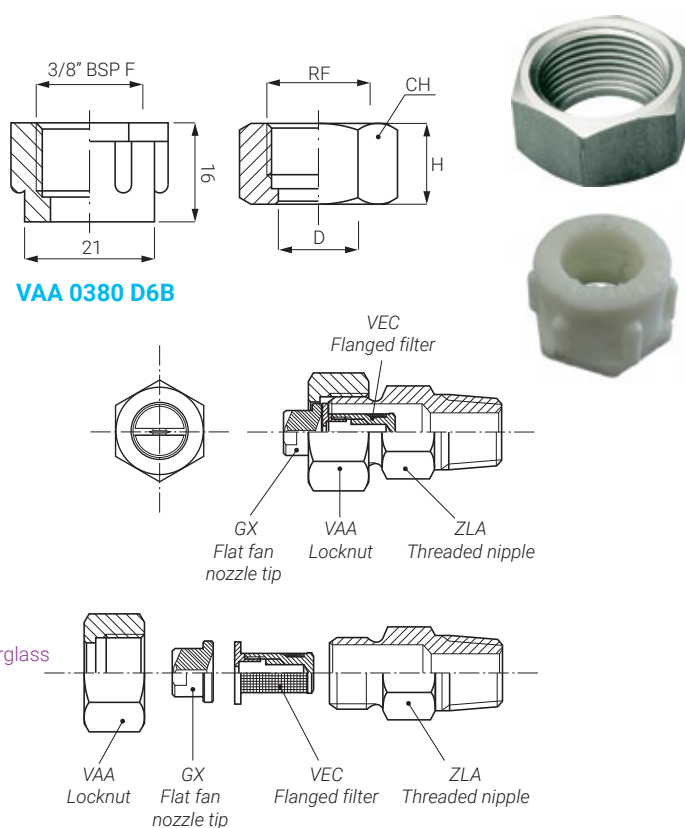
VAA locknuts in steel or brass are mounted on all ZAA, ZAC, ZLA and ZPB nipples to fix various types of nozzles. The VAA 0380 D6B locknut, on the other hand, is used with the ZPB clamp.

CODE	RF inch	D mm	H mm	WS mm	Material	
					Plastic	Metal
VAA 0380 xxB	3/8"	12.9	12	22	•	•
VAA 0381 xxB	3/8"	12.5	15	22		•
VAA 0750 xxB	3/4"	20.5	16	32		•
VAA 1250 xxB	1 1/4"	32.5	27	50		•

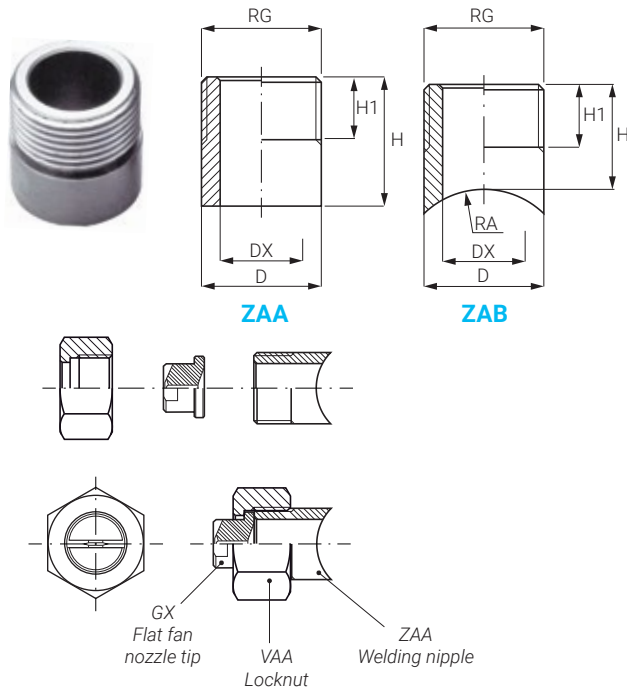
HOW TO MAKE UP THE PRODUCT CODE Ex.: VAA 0380 B1B



(LOCKNUTS) VAA



ZAA / ZAB (STANDARD WELDING NIPPLES)



STANDARD WELDING NIPPLES

ZAA/ZAB welding nipples allow the assembly of GX, BX or KX series nozzle tips onto pipes and spray manifolds. One end of the nipple is fixed onto the pipe and the other to the nozzle tip. ZAA is a standard model with a flat welding surface. ZAB is radiused type with a curved welding surface that fits the pipe diameter. VAA locknut goes with ZAA/ZAB weld nozzle tip. Additionally, we suggest you to add VEA, VEC or VED flanged filters to avoid clogging when you use small orifice nozzles.

THREAD SIZE 3/8", 3/4"
 MATERIAL **B1** AISI 303 Stainless Steel **D1** PP
B31 AISI 316L Stainless Steel **D8** PVDF

CODE	RG inch	H mm	H1 mm	D mm	DX mm	RA mm	W g
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STANDARD

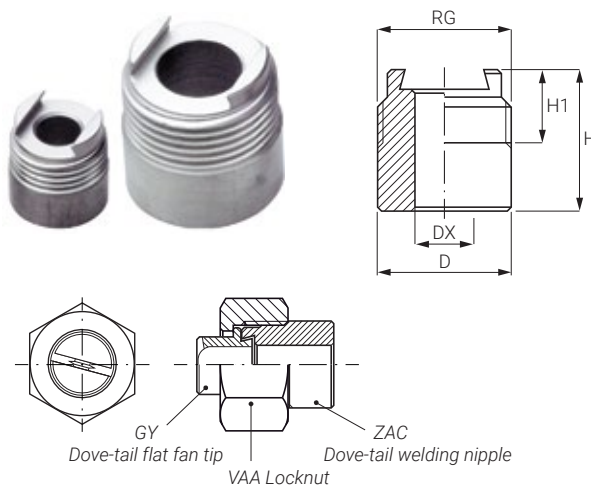
ZAA C018 xxG	3/8"	18	10	17	11.5	-	20
ZAA E027 xxG	3/4"	27	15	27	18.0	-	61

RADIUSED

ZAB C018 xxD	3/8"	18	10	17	11.5	10.0	20
ZAB C018 xxE						12.5	
ZAB C018 xxF						16.0	
ZAB C018 xxG						20.0	
ZAB C018 xxH						25.0	

PNR Italia is available to supply additional models with measures on request.

ZAC (DOVE-TAIL WELDING NIPPLES)



DOVE-TAIL WELDING NIPPLES

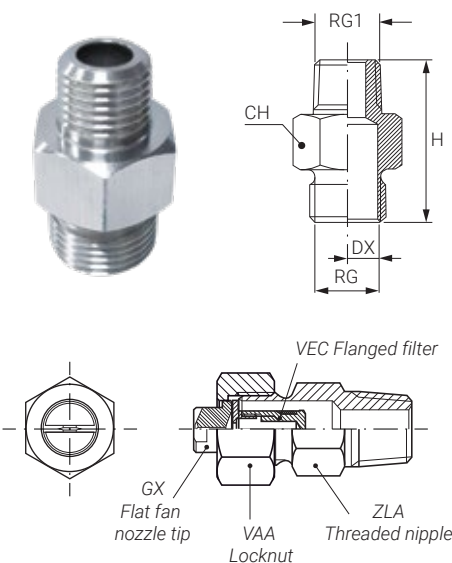
ZAC welding nipples are manufactured with a dovetail end to match GY type dove-tail nozzle tips. One end of the nipple is fastened onto the pipe and the other end to the nozzle tip by means of a VAA locknut. The dove-tail design of these nipples keeps them properly orientated in the desired position, thus shortening time for nozzle tips cleaning and orientation adjustments.

THREAD SIZE 3/8", 3/4", 1 1/4"
 MATERIAL **B1** AISI 303 Stainless Steel **D2** PP
B31 AISI 316L Stainless Steel **D8** PVDF

CODE	RG inch	H mm	H1 mm	D mm	DX mm	W g
------	---------	------	-------	------	-------	-----

ZAC C018 xx	3/8"	18.0	10.0	17	7.5	20
ZAC E027 xx	3/4"	27.5	14.0	27	14.0	61
ZAC G040 xx	1 1/4"	40.0	21.0	42	20.0	280

ZLA / ZLC (STANDARD THREADED NIPPLES)



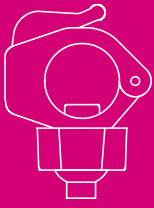
STANDARD THREADED NIPPLES

ZLA threaded nipples have a flanged end to match nozzle tips type GX, BX or KX. One end of the nipple gets assembled onto the pipe and the other end to the nozzle tip to which it is fixed by means of a VAA locknut. In addition, flanged filters VEA, VEC and VED can be assembled to avoid clogging.

INLET THREAD SIZE 1/8", 1/4", 3/8", 1/2", 3/4"
 OUTLET THREAD SIZE 1/8", 1/4", 3/8", 1/2", 3/4"
 CONNECTION RG1: BSPT (A), BSP (C) RG: BSP
 MATERIAL **B1** AISI 303 Stainless Steel **T1** Brass **D2** PP
B31 AISI 316L Stainless Steel **D1** PVC **D8** PVDF

CODE	RG inch	RG1 poll	DX mm	H mm	CH mm	W g	RG1					
							RG	1/8"	1/4"	3/8"	1/2"	3/4"
ZLx 1212 xxB	1/8"	1/8"	5.00	25.0	14	18	1/8"	•	•	•	•	•
ZLx 2525 xxB	1/4"	1/4"	7.50	29.0	19	20	1/4"		•	•	•	•
ZLx 3838 xxB	3/8"	3/8"	10.0	35.0	19	25	3/8"	•	•	•	•	•
ZLx 5050 xxB	1/2"	1/2"	15.0	38.0	27	50	1/2"			•	•	•
ZLx 7575 xxB	3/4"	3/4"	18.0	40.0	32	90	3/4"				•	•

The table on the right shows the different combinations PNR Italia can produce, based on the inlet thread size RG1 and the outlet thread size RG. Our Technical Office is at your disposal to give you codes and dimensions.

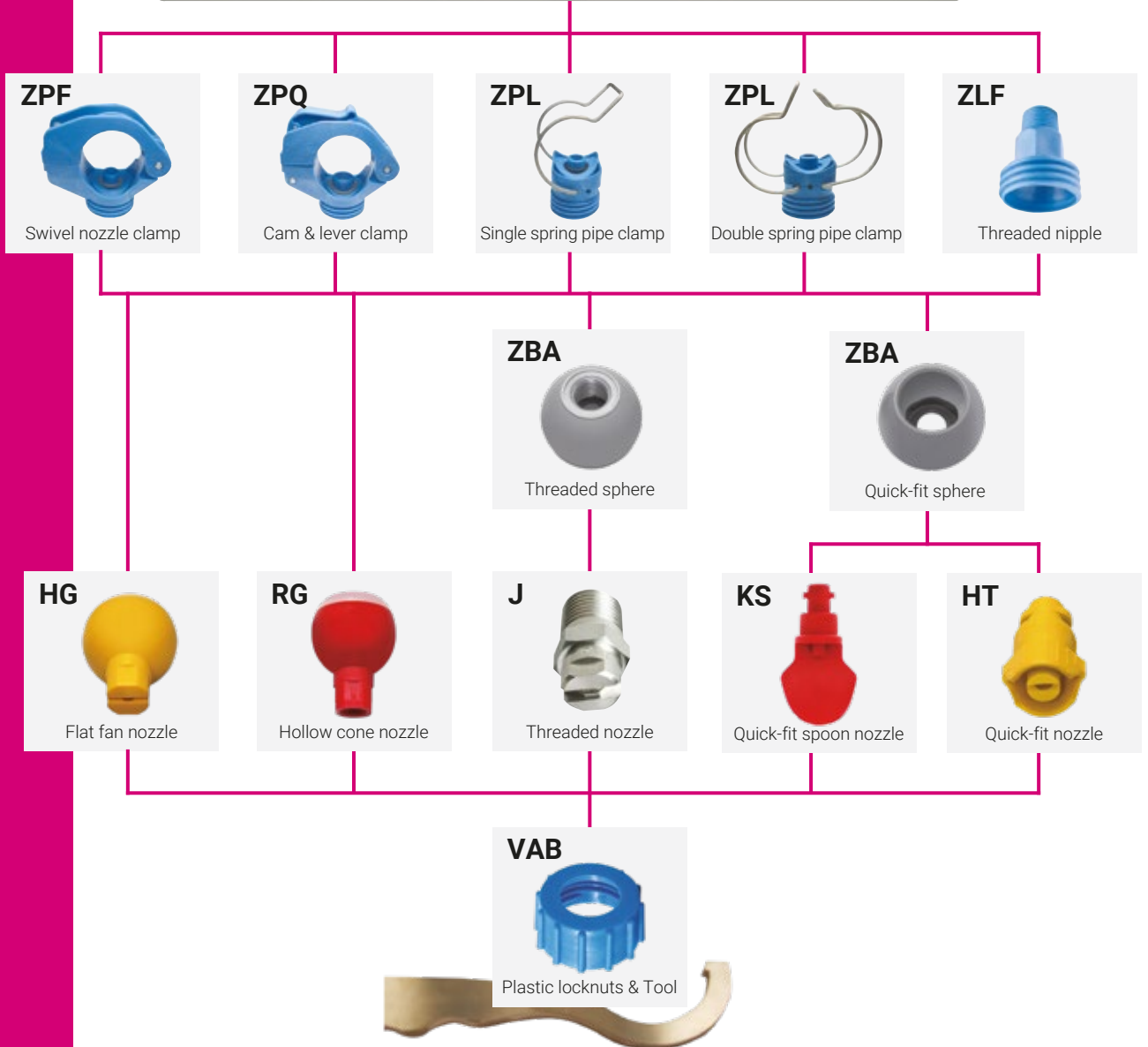


CLIP-ON NOZZLES



Diversified manufacturing is a competitiveness key-factor today. PNR Italy manufactures several diversified products to meet all costumers' needs and help them achieve their production targets. Its complete product range includes clip-on nozzles which now widely used by European and American automobile manufacturers. In the automobile industry the coating lines are representative of diversified production requiring timely adjustments of nozzles spray direction and coverage. Moreover, in such operating environments, nozzles must be regularly cleaned and serviced to ensure high quality coating.

To satisfy such requirements PNR has developed cutting-edge quality products to enhance the productivity and competitiveness of the production plant. PNR clip-on adjustable nozzles, made with innovative design and in top quality materials, shorten installation, adjustment and servicing times to the benefit of production efficiency. These nozzles are installed on pipes and can be rapidly released and changed at any time or easily adjusted to different production conditions.



(SWIVEL NOZZLE CLAMPS) **ZPF**

SWIVEL NOZZLE CLAMPS

ZPF swivel clamps are specially designed for HGQ, RGN and ZBA series. To install them on pipes all you need is drill a hole, insert the nozzle clamp inside and fasten it with a simple screwdriver. The nozzle clamp body is in PP chemically bonded fibreglass whereas accessorial bolts and screws are made in stainless steel AISI 316. They are robust, easy to install, adjust and service and their design revolutioned modern surface pre-treatment plants. They provide excellent performance at high temperatures and easy spray jet orientation.

TYPICAL APPLICATION Cleaning equipment used in pre-treatment for coating process

MAX WORKING TEMPERATURE LT 90°C

MAX WORKING PRESSURE LP 5 bar

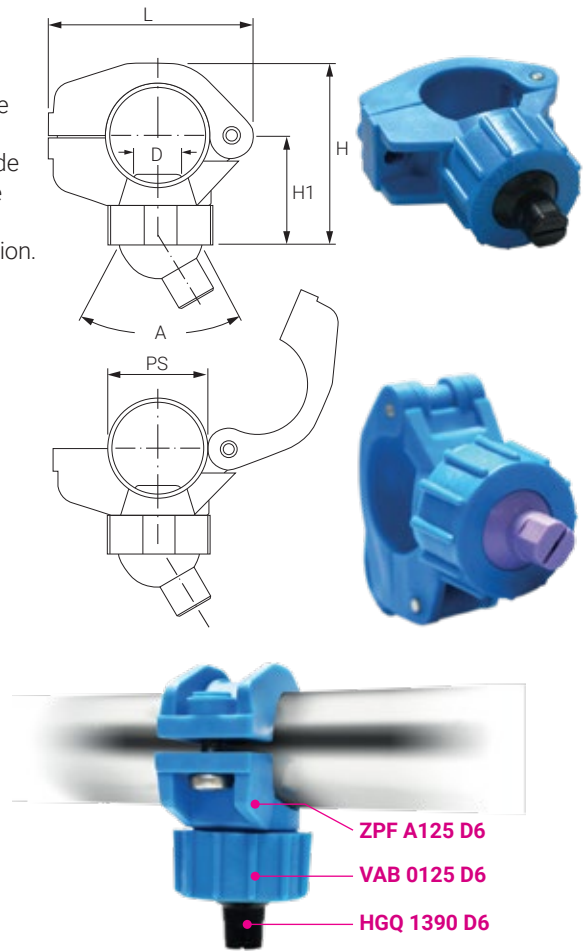
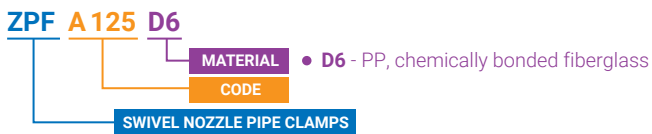
MATERIAL **D6** PP, chemically bonded fibreglass

B3 AISI 316 Stainless Steel

E8 NBR

CODE	PS inch	PD mm	D mm	H mm	H1 mm	L mm	A deg	W g
ZPF A125 D6	1 1/4"	41/43	20.0	83	54	84	40°	85
ZPF B125 D6			17.0					
ZPF C125 D6			14.0					
ZPF A150 D6	1 1/2"	46/49	20.0	90	57	90	40°	88
ZPF B150 D6			17.0					
ZPF C150 D6			14.0					

HOW TO MAKE UP THE PRODUCT CODE Ex.: ZPF A125 D6



(SWIVEL NOZZLE CAM AND LEVER CLAMPS) **ZPQ**

SWIVEL NOZZLE CAM AND LEVER CLAMPS

ZPQ cam and lever clamps are specially designed for HGQ, RGN and ZBA ball nozzles. Only three steps to install them on a pipe: drill a hole, wrap the cam around the pipe and pull the lever down to block it. No need of tools. The body is in PP chemically bonded fibreglass whereas accessorial bolts and screws are made in stainless steel AISI 316. ZPQ swivel nozzles with cam and lever clamps provide excellent performance at high temperatures and easy spray jet orientation.

COMMON APPLICATION Surface pre-treatment plants

MAX WORKING TEMPERATURE LT 90°C

MAX WORKING PRESSURE LP 5 bar

MATERIAL **D6** PP, chemically bonded fibreglass

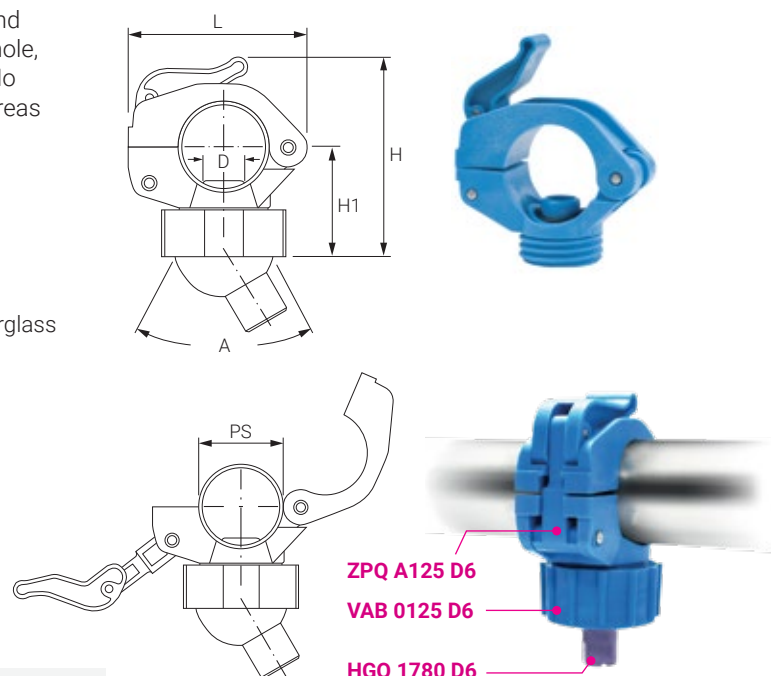
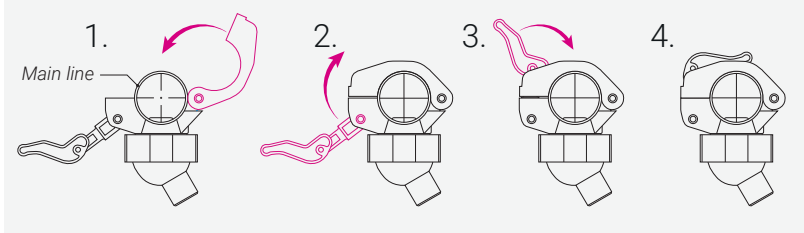
B3 AISI 316 Stainless Steel

E8 NBR

D22 Soft polypropylene

CODE	PS inch	PD mm	D mm	H mm	H1 mm	L mm	A deg	W g
ZPQ A125 D6	1 1/4"	42/43	20.0	93	41	84	40°	87
ZPQ B125 D6			17.0					
ZPQ A150 D6	1 1/2"	48/49	20.0	96	44	95	40°	97
ZPQ B150 D6			17.0					

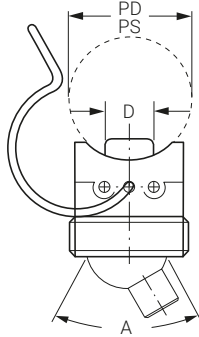
HOW TO INSTALL THE SWIVEL NOZZLE CAM & LEVER CLAMPS



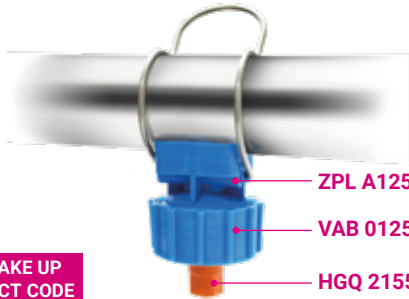
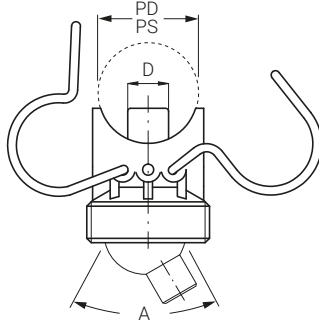
ZPL (SWIVEL NOZZLE SPRING PIPE CLAMPS)



ZPL Single spring

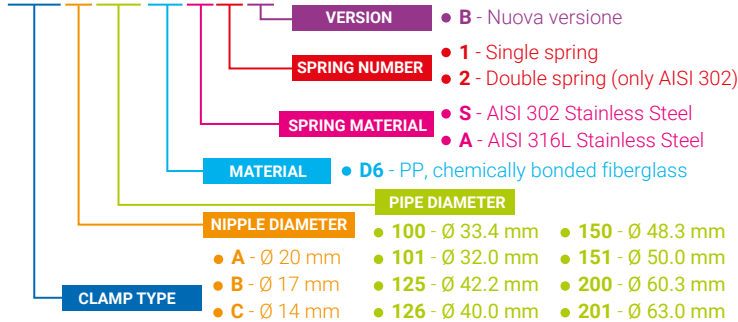


ZPL Double spring Better stability



HOW TO MAKE UP THE PRODUCT CODE

ZPL A 100 D6 X Y Z



SWIVEL NOZZLE SPRING PIPE CLAMPS

ZPL pipe clamps are specially designed for swivel ball nozzles. Drill a hole and fix the clamp with the spring(s). Body is made of fibreglass reinforced PP, screw and spring in AISI 316L (or AISI 302). ZPL swivel nozzles work under high temperature and high degree of intensity. ZPL swivel nozzle pipe clamps are widely used in surface pre-treatment.

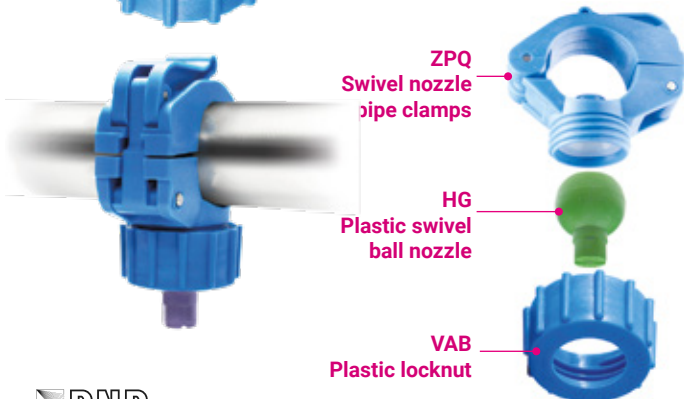
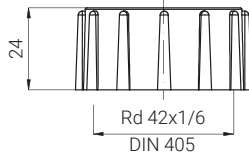
TYPICAL APPLICATION Cleaning equipment used in pre-treatment for coating process

MAX WORKING TEMPERATURE LT 80°C
 MAX WORKING PRESSURE Single spring 3 bar
 Double spring 7 bar

MATERIAL Body **D6** PP, chemically bonded fiberglass
 Spring **N1** AISI 302 Stainless Steel
B31 AISI 316L Stainless Steel
 O-ring **E8** NBR

CODE	PS		PD mm	D mm	A deg
	inch	DN			
ZPL A100 D6 XYZ	1"	DN25	33.4	20.0	40°
ZPL B100 D6 XYZ	1"	DN25	33.4	17.0	40°
ZPL C100 D6 XYZ	1"	DN25	33.4	14.0	40°
ZPL A101 D6 XYZ	1"	DN25	32.0	20.0	40°
ZPL B101 D6 XYZ	1"	DN25	32.0	17.0	40°
ZPL C101 D6 XYZ	1"	DN25	32.0	14.0	40°
ZPL A125 D6 XYZ	1 1/4"	DN32	42.2	20.0	40°
ZPL B125 D6 XYZ	1 1/4"	DN32	42.2	17.0	40°
ZPL C125 D6 XYZ	1 1/4"	DN32	42.2	14.0	40°
ZPL A126 D6 XYZ	1 1/4"	DN32	40.0	20.0	40°
ZPL B126 D6 XYZ	1 1/4"	DN32	40.0	17.0	40°
ZPL C126 D6 XYZ	1 1/4"	DN32	40.0	14.0	40°
ZPL A150 D6 XYZ	1 1/2"	DN40	48.3	20.0	40°
ZPL B150 D6 XYZ	1 1/2"	DN40	48.3	17.0	40°
ZPL C150 D6 XYZ	1 1/2"	DN40	48.3	14.0	40°
ZPL A151 D6 XYZ	1 1/2"	DN40	50.0	20.0	40°
ZPL C151 D6 XYZ	1 1/2"	DN40	50.0	14.0	40°
ZPL A200 D6 XYZ	2"	DN50	60.3	20.0	40°
ZPL B200 D6 XYZ	2"	DN50	60.3	17.0	40°
ZPL C200 D6 XYZ	2"	DN50	60.3	14.0	40°
ZPL A201 D6 XYZ	2"	DN50	63.0	20.0	40°
ZPL B201 D6 XYZ	2"	DN50	63.0	17.0	40°
ZPL C201 D6 XYZ	2"	DN50	63.0	14.0	40°

VAB (PLASTIC LOCKNUTS)



PLASTIC LOCKNUTS

VAB plastic locknuts are exclusively designed for ball nozzles. Their special thread and shape allow to assemble the cap and by hand, with no need of tools, thus making all servicing operations easier and quicker. They are made of high quality PP or chemically bonded fiberglass to keep stability at high temperatures and offer the best resistance to chemicals.

MATERIAL **D6** PP, caricato fibravetro
 MAX WORKING TEMPERATURE LT 80°C

HOW TO MAKE UP THE PRODUCT CODE Ex.: VAB 0125 D6



(SWIVEL NOZZLE THREADED NIPPLE) **ZLF**

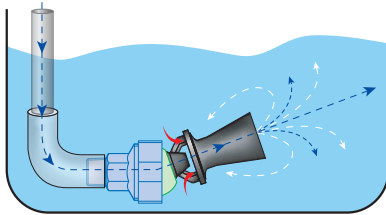
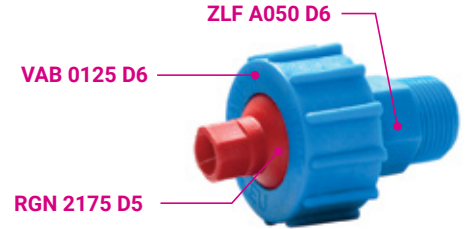
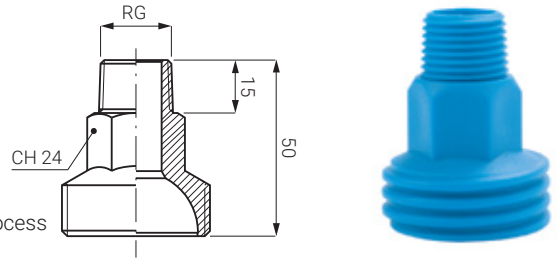
SWIVEL NOZZLE THREADED NIPPLE

ZLF series threaded nipples offer another convenient type of installation for swivel ball nozzles. They are made of fibreglass reinforced PP. ZLF series work under high temperature and high degree of intensity. ZLF threaded nipples are widely used in surface pre-treatment.

TYPICAL APPLICATION Cleaning equipment used in pre-treatment for coating process
 MATERIAL **D6** PP, chemically bonded fibreglass

CODE	RG inch BSPT	RG inch NPT	W g
ZLF A038 D6	3/8"	-	15
ZLF B038 D6	-	3/8"	
ZLF A050 D6	1/2"	-	
ZLF B050 D6	-	1/2"	

MAX WORKING TEMPERATURE
 LP 4 bar
 MAX WORKING TEMPERATURE
 LT 90°C



ZLF threaded nipples offer the best mixing effect and are often used in combination with UPB mixing eductors.



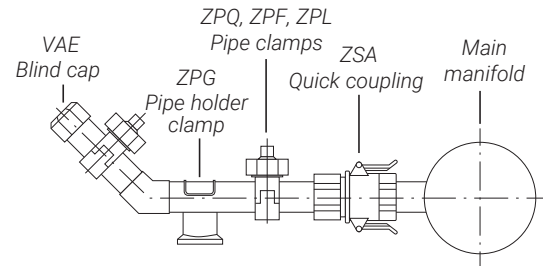
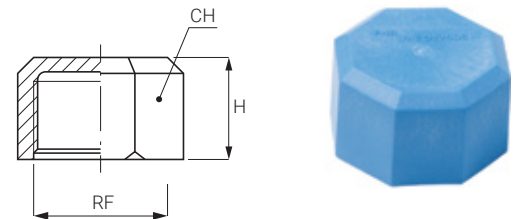
(PLASTIC END CAPS) **VAE**

PLASTIC END CAPS

VAE plastic caps are specially used to close pipes ends. Besides, 1 1/4" VAE 1250 D6 plastic caps can be used to seal pipes ends when, to manufacture different size products, it's necessary to reduce the quantity of swivel nozzles. They are made of high quality PP or chemically bonded fibreglass to keep stability at high temperatures and offer the best resistance to chemicals. They are widely used in surface pre-treatment.

MATERIAL **D6** PP, chemically bonded fibreglass
 MAX WORKING TEMPERATURE LT 90°C

CODE	RF inch	H mm	CH mm
VAE 0100 D6	1"	25	42
VAE 0125 D6	1 1/4"	32	52
VAE 0150 D6	1 1/2"	32	60

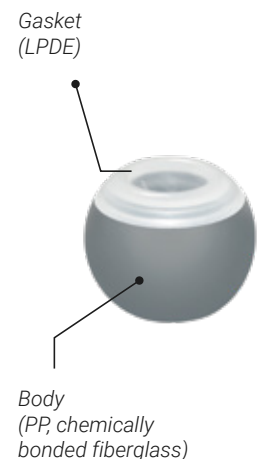


(THREADED AND QUICK-FIT SPHERES) **ZBA**

THREADED AND QUICK-FIT SPHERES

ZBA swivel nozzles are produced with three different types of connections: threaded, quick-fit and blind hole. The threaded nozzles are assembled to threaded swivel joints. The quick-fit types are designed for HTQ/KSQ quick-fit flat fan nozzles whereas the blind hole models are specially used in spraying processes requiring changes and pauses.

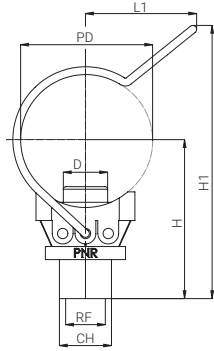
CODE	CONNECTION			TYPE	L mm	D mm	H mm
	RF/RG	M/F	BSP/NPT				
ZBA 0000 D5x	Blind	---	---	---	35.0	17.5	27.5
ZBA 0039 D5	3/8"	M	BSP	Mobile	35.0	20.0	27.3
ZBA GAT1 D5x	1/8"	F	BSP	Mobile	35.0	20.0	27.3
ZBA GBT1 D5x	1/4"	F	BSP	Mobile	35.0	20.0	27.3
ZBA GCT1 D5x	3/8"	F	BSP	Mobile	35.0	20.0	27.3
ZBA GDT1 D5x	1/2"	F	BSP	Mobile	35.0	20.0	27.3
ZBA NAT1 D5x	1/8"	F	NPT	Mobile	35.0	20.0	27.3
ZBA NBT1 D5x	1/4"	F	NPT	Mobile	35.0	20.0	27.3
ZBA NCT1 D5x	3/8"	F	NPT	Mobile	35.0	20.0	27.3
ZBA NDT1 D5x	1/2"	F	NPT	Mobile	35.0	20.0	27.3
ZBA GAT2 D5x	1/8"	F	BSP	Fissa	27.4	26.0	35.1
ZBA GBT2 D5x	1/4"	F	BSP	Fissa	27.4	26.0	35.1
ZBA GCT2 D5x	3/8"	F	BSP	Fissa	27.4	26.0	35.1
ZBA GDT2 D5x	1/2"	F	BSP	Fissa	27.4	26.0	35.1
ZBA QQN2 D6	Quick	---	---	Mobile	35.0	23.4	27.0



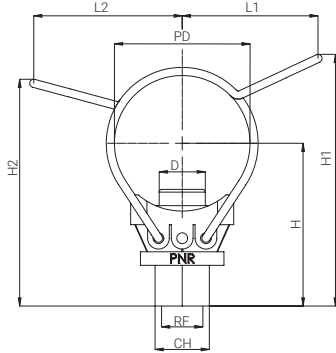
ZPN (SPRING PIPE CLAMPS)



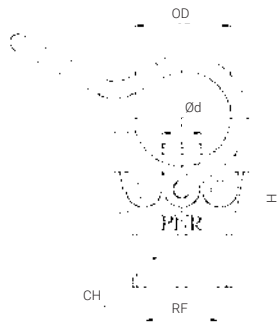
ZPN Single spring



ZPN Double spring
Better stability



ZPN MINI Single spring



CODE AND DIMENSION FOR ZPN

CODE	RF inch	PS		PD mm	D mm	CH mm
		inch	DN			
ZPN B151 D6C1	3/8" F	1 1/2"	DN40	48.2 - 50.0	17.0	20
ZPN B151 D6D1	1/2" F	1 1/2"	DN40	48.2 - 50.0	17.0	26
ZPN B151 D6C2	3/8" F	1 1/2"	DN40	48.2 - 50.0	17.0	20
ZPN B151 D6D2	1/2" F	1 1/2"	DN40	48.2 - 50.0	17.0	26

SPRING PIPE CLAMPS

ZPN spring clamps provide quick connection of 3/8" and 1/2" male threaded nozzles to 1 1/2" pipes. Geometrical characteristics of ZPN are same as ZPL in connection pipe side. Single or double spring versions are available. ZPN pipe clamps are widely used in pre-treatment for coating process.

TYPICAL APPLICATION	Cleaning equipment used in pre-treatment for coating process
MAX WORKING TEMPERATURE	LT 90°C
MAX WORKING PRESSURE	Single spring 3 bar Double spring 7 bar
MATERIAL	Body D6 PP, chemically bonded fiberglass Spring N1 AISI 302 Stainless Steel B31 AISI 316L Stainless Steel O-ring E8 NBR

MINI SPRING PIPE CLAMPS

ZPN MINI spring clamps provide quick connection of 1/8", 1/4", 3/8" and 1/2" female threaded to 1/2", 3/4" and 1" pipes. It's enough make one hole on pipe, insert the clamp with the seal and fix to pipe with the spring. Up to now, only single spring model is available. Models are made of different colours, depending on pipe size (yellow clamp for pipe size 1/2", green clamp for pipe size 3/4", blue clamp for pipe size 1").

TYPICAL APPLICATION	Cleaning equipment used in pre-treatment for coating process
MAX WORKING TEMPERATURE	LT 90°C
MAX WORKING PRESSURE	LP 5 bar
MATERIAL	Body D6 PP, chemically bonded fiberglass Spring B3 AISI 316 Stainless Steel O-ring E8 NBR

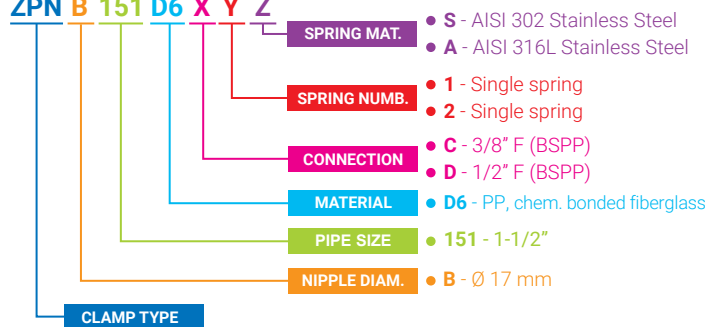
CODE AND DIMENSION FOR ZPN MINI

CODE	RF inch	OD inch	Ød mm	CH mm	H mm	COLOUR
ZPN E050 D6AMA	1/8" F	1/2"	9.00	16	38.0	YELLOW
ZPN E050 D6BMA	1/4" F	1/2"	9.00	18	38.0	
ZPN E050 D6CMA	3/8" F	1/2"	9.00	22	38.0	
ZPN E050 D6DMA	1/2" F	1/2"	9.00	24	38.0	
ZPN D075 D6AMA	1/8" F	3/4"	11.0	16	41.0	GREEN
ZPN D075 D6BMA	1/4" F	3/4"	11.0	18	41.0	
ZPN D075 D6CMA	3/8" F	3/4"	11.0	22	41.0	
ZPN D075 D6DMA	1/2" F	3/4"	11.0	24	41.0	
ZPN F100 D6AMA	1/8" F	1"	13.0	16	45.0	BLUE
ZPN F100 D6BMA	1/4" F	1"	13.0	18	45.0	
ZPN F100 D6CMA	3/8" F	1"	13.0	22	45.0	
ZPN F100 D6DMA	1/2" F	1"	13.0	24	45.0	

HOW TO MAKE UP THE PRODUCT CODE

ZPN

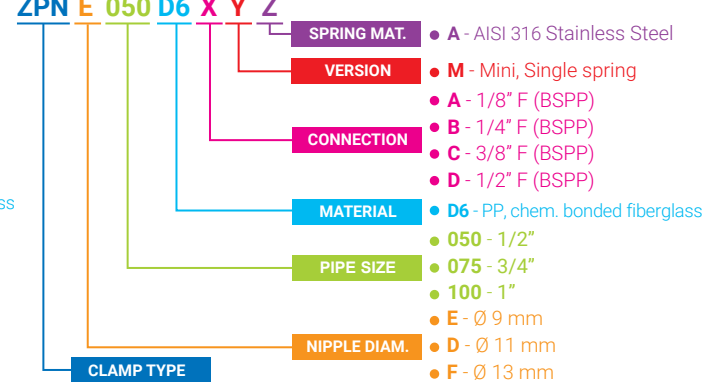
ZPN B 151 D6 X Y Z



HOW TO MAKE UP THE PRODUCT CODE

ZPN MINI

ZPN E 050 D6 X Y Z



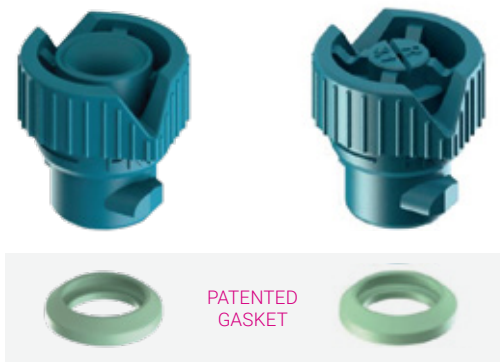
(MINI QUICK-FIT NOZZLES) DT/QM, HT/QM

MINI QUICK-FIT NOZZLES

DT/QM full cone spray nozzles and HT/QM flat fan spray nozzles, assembled onto a nipple with 3/8", 1/4" e 1/8" BSPT connections, offer the convenience of a quick coupling which allows a simple assembly. Moreover, the special seal - **patented by PNR Italia** - between nipple and nozzle avoids any risk of leakage. To allow a perfect spray pattern alignment, the spray jet has an offset angle of 10° from the hexagon of the nipple onto which the nozzle is assembled. This type of nozzles are extremely convenient for maintenance and can be quickly replaced in case of clogging. The various flow rates of these nozzles are marked by different colours. They are made in glass fibre-reinforced PP to ensure maximum stability at high temperatures and chemical resistance.

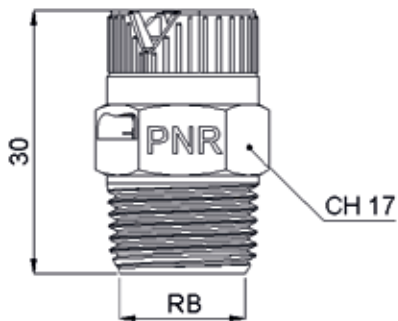
MATERIAL **D6** PP, chemically bonded fiberglass
 NIPPLE DIMENSIONS 1/8", 1/4", 3/8" BSPT
 MAX TEMP. D'ESERCIZIO LT 90 °C
 TYPICAL APPLICATION

Washing: food cleaning, parts cleaning, filter cloth cleaning, vehicles cleaning
Lubrication: spray of lubricants and release agents
Agriculture: spray of antifouling chemicals
Cooling: product cooling
Other applications: spray of chemicals



DT/QM + Gasket + Nipple

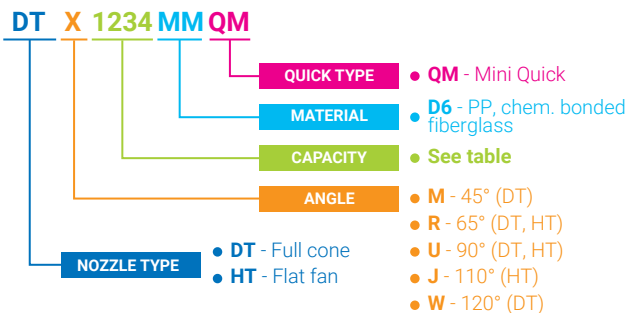
HT/QM + Gasket + Nipple



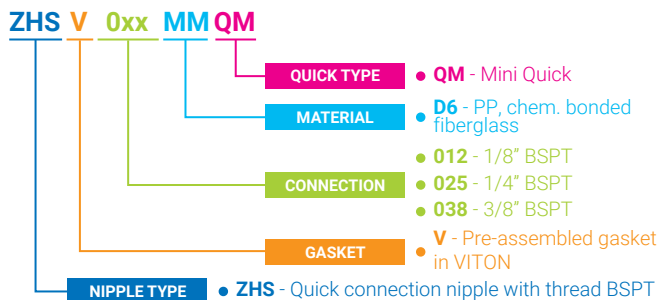
ANGLE	CODE	Capacity at different pressure values (l/min) (bar)					Colour
		1.0	2.0	3.0	4.0	5.0	
45°	DTx 0780 D6QM	0.45	0.64	0.78	0.90	1.01	GREY
	DTx 1100 D6QM	0.58	0.82	1.00	1.15	1.29	BROWN
	DTx 1120 D6QM	0.69	0.98	1.20	1.39	1.55	BLACK
	DTx 1150 D6QM	0.87	1.22	1.50	1.73	1.94	LIGHT ORANGE
65°	DTx 1190 D6QM	1.10	1.55	1.90	2.19	2.45	LIGHT GREEN
	DTx 1235 D6QM	1.36	1.92	2.35	2.71	3.03	LIGHT YELLOW
90°	DTx 1294 D6QM	1.70	2.40	2.94	3.39	3.80	SKY BLUE
	DTx 1370 D6QM	2.14	3.02	3.70	4.27	4.78	WHITE
120°	DTx 1470 D6QM	2.71	3.84	4.70	5.43	6.07	RED
	DTx 1590 D6QM	3.41	4.82	5.90	6.81	7.62	DARK GREY
	DTx 1740 D6QM	4.27	6.04	7.40	8.54	9.55	BROWN/BLACK
	DTx 2112 D6QM	6.47	9.14	11.2	12.9	14.5	RED ORANGE

ANGLE	CODE	Capacity at different pressure values (l/min) (bar)					Colour	
		1.0	2.0	3.0	4.0	5.0		
65°	HTx 0780 D6QM	0.45	0.64	0.78	0.78	1.01	GREY	
	HTx 1100 D6QM	0.58	0.82	1.00	1.15	1.29	BROWN	
	HTx 1120 D6QM	0.69	0.98	1.20	1.39	1.55	BLACK	
	HTx 1160 D6QM	0.92	1.31	1.60	1.85	2.07	LIGHT ORANGE	
	HTx 1190 D6QM	1.10	1.55	1.90	2.19	2.45	LIGHT GREEN	
	HTx 1233 D6QM	1.35	1.90	2.33	2.69	3.01	LIGHT YELLOW	
	HTx 1310 D6QM	1.79	2.53	3.10	3.58	4.00	SKY BLUE	
	HTx 1390 D6QM	2.25	3.18	3.90	4.50	5.03	WHITE	
	90°	HTx 1590 D6QM	3.41	4.82	5.90	6.81	7.62	DARK GREY
		HTx 1780 D6QM	4.50	6.37	7.80	9.01	10.1	BROWN/BLACK
110°	HTx 1980 D6QM	5.66	8.00	9.80	11.3	12.7	PURPLE	
	HTx 2117 D6QM	6.75	9.55	11.7	13.5	15.1	RED ORANGE	
	HTx 2135 D6QM	7.79	11.0	13.5	15.6	17.4	LILAC	
	HTx 2153 D6QM	8.83	12.5	15.3	17.7	19.8	GREEN	
	HTx 2195 D6QM	11.3	15.9	19.5	22.5	25.2	YELLOW	
	HTx 2230 D6QM	13.3	18.8	23.0	26.6	29.7	BLUE	
	HTx 2280 D6QM	16.2	22.9	28.0	32.3	36.1	RED	

HOW TO MAKE UP THE PRODUCT CODE



HOW TO MAKE UP THE PRODUCT CODE

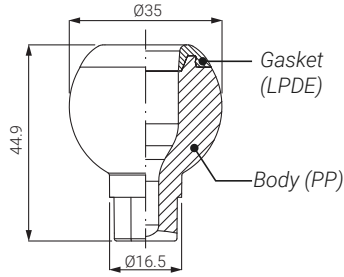


NOTE: each nozzle, both DT/QM and HT/QM, of any capacity, can be mounted on all three types of nipples.

HG, RG (PLASTIC SWIVEL BALL NOZZLES)



HGQ 2117 D5
Flat fan nozzle



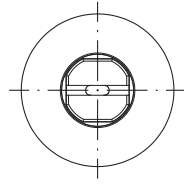
PLASTIC SWIVEL BALL NOZZLES

HGQ and RGN plastic swivel ball nozzles are designed for diversified applications. They allow an easy adjustment of their spray jet direction and offer a quick-fit connection.

NOZZLE TYPE	Flat fan nozzles (HG), Hollow cone nozzles (RG)
TYPICAL APPLICATION	Cleaning equipment used in pre-treatment for coating process
MATERIAL	Body D5 PP, talcum filled D6 PP, chemically bonded fiberglass

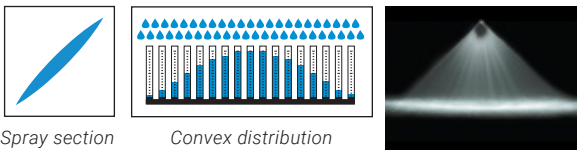
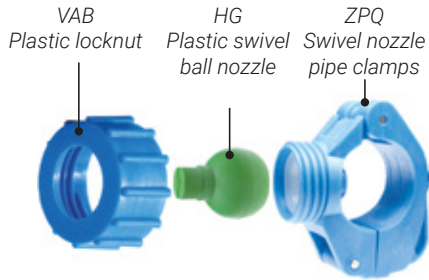


Gasket (LDPE, low-density polyethylene)

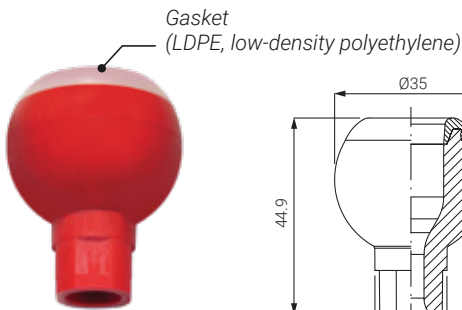


HG - FLAT FAN NOZZLES

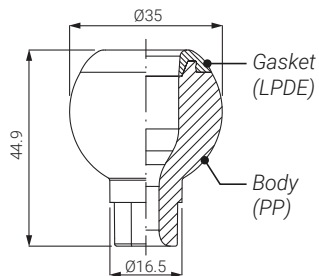
HGQ flat fan nozzles feature a 60° spray angle and their wide range of flow rates makes them the best choice in pre-treatment plants. For an easier identification and use, they are made in different colours depending on the flow rate. The material is top quality PP, chemically bonded fibreglass to offer the best stability at high temperatures and resistance to chemicals.



CODE	Capacity at different pressure values (l/min) (bar)						Colour	W g
	0.5	0.7	1.0	1.5	2.0	3.0		
60°								16
HGQ 1390 xx	1.70	2.00	2.40	2.90	3.30	3.90	BLACK	
HGQ 1780 xx	3.18	3.77	4.50	5.52	6.37	7.80	PURPLE	
HGQ 1980 xx	4.00	4.70	5.60	6.90	8.00	9.80	BROWN	
HGQ 2117 xx	4.60	5.50	6.50	8.00	9.30	11.7	YELLOW	
HGQ 2135 xx	5.50	6.50	7.80	9.50	11.0	13.5	GREY	
HGQ 2155 xx	6.20	7.40	8.80	10.8	12.5	15.5	RED	
HGQ 2195 xx	7.80	9.20	11.0	13.8	15.6	19.5	GREEN	
HGQ 2230 xx	9.50	11.3	13.5	16.3	19.1	23.0	BLUE	
HGQ 2270 xx	10.9	12.8	15.4	18.8	21.7	27.0	SKY BLUE	
HGQ 2337 xx	13.8	16.4	19.5	24.0	27.7	33.7	WHITE	
HGQ 2410 xx	16.7	19.8	23.6	29.0	33.5	41.0	PINK	

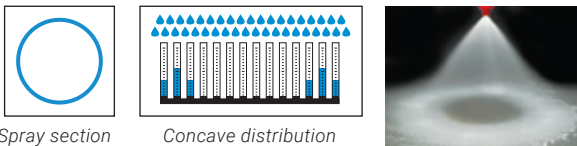


RGN
Hollow cone nozzle



RG - HOLLOW CONE NOZZLES

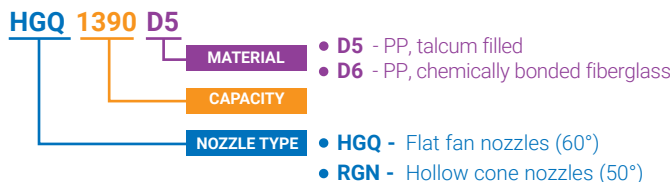
RGN hollow cone nozzles have a 50° spray angle and offer a wide range of flow rates, all identified by a particular nozzle colour to avoid any possible confusion. The material is top quality PP, chemically bonded fibreglass to offer the best stability at high temperatures and resistance to chemicals. For these features they are widely used in pre-treatment plants.



CODE	Capacity at different pressure values (l/min) (bar)						Colour	W g
	0.5	0.7	1.0	1.5	2.0	3.0		
50°								25
RGN 2175 xx	7.10	8.50	10.1	12.4	14.3	17.5	ROSSO	
RGN 2215 xx	8.80	10.4	12.4	15.2	17.6	21.5	BLU	
RGN 2390 xx	15.9	18.8	22.5	27.6	31.8	39.0	NERO	

HOW TO MAKE UP THE PRODUCT CODE

Ex.: HGQ 1390 D5

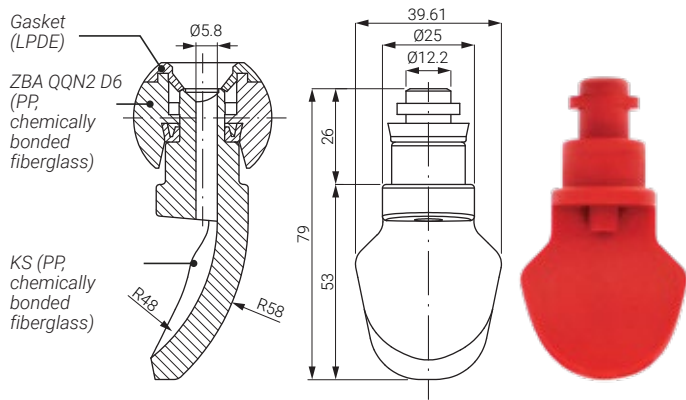


(FLAT FAN QUICK-FIT SPOON NOZZLES) **KS/QQ**

FLAT FAN QUICK-FIT SPOON NOZZLES

KS flat fan quick-fit spoon nozzles produce a flat spray pattern with a 50° or 60° deflection spray angle and offer the highest possible impact for a given feed pressure, up to 60° compared to standard turbulence flat fan nozzles. The innovative design ensures the ideal efficiency for deep cleaning and their quick connection makes them easy to assemble and avoids leakage. The different flow rates are identified by their colours available for proper selection. Materials are high quality PP and chemically bonded fiberglass to keep stability at high temperatures and be chemicals-resistant. These nozzles are widely used in surface pre-treatments.

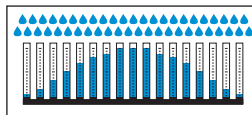
MATERIAL **D6** PP, chemically bonded fiberglass
 TYPICAL APPLICATION Cleaning equipment used in pre-treatment for coating process



◁	CODE	Capacity at different pressure values (l/min) (bar)						Colour	W g
		0.5	0.7	1.0	1.5	2.0	3.0		
50°	KSN 2155 D6QQS	6.20	7.40	8.80	10.8	12.5	15.5	RED	23
	KSN 2195 D6QQS	7.80	9.20	11.0	13.5	15.6	19.5	GREEN	
	KSQ 2230 D6QQS	9.50	11.3	13.5	16.5	19.1	23.0	BLUE	
	KSQ 2270 D6QQS	10.9	12.8	15.4	18.8	21.7	27.0	SKY BLUE	
60°	KSQ 2337 D6QQS	13.9	16.4	19.6	24.0	27.7	33.7	WHITE	
	KSQ 2390 D6QQS	15.9	18.8	22.5	27.6	31.8	39.0	ORANGE	
	KSQ 2410 D6QQS	16.7	19.8	23.6	29.0	33.5	41.0	PINK	
	KSQ 2433 D6QQS	17.7	21.0	25.0	30.6	35.3	43.3	BROWN	



Spray section



Convex distribution



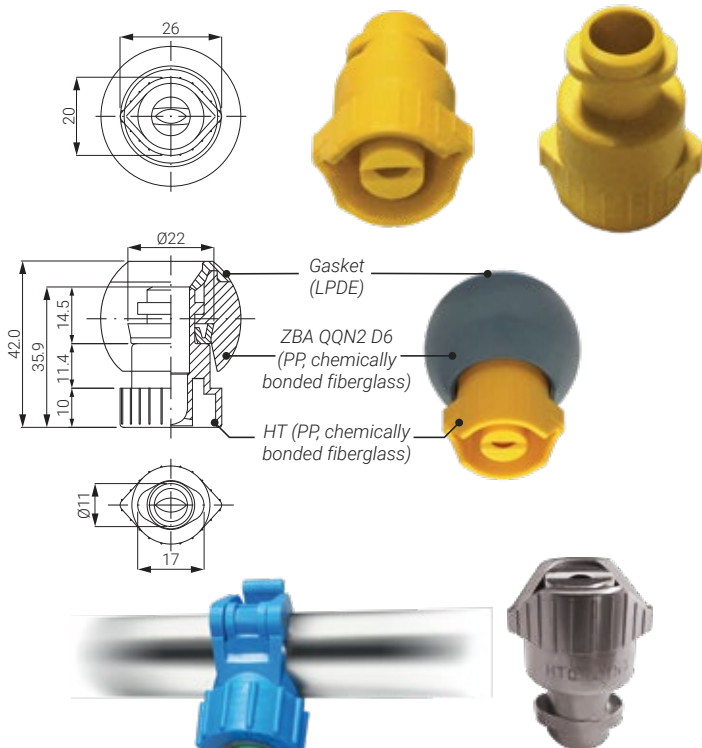
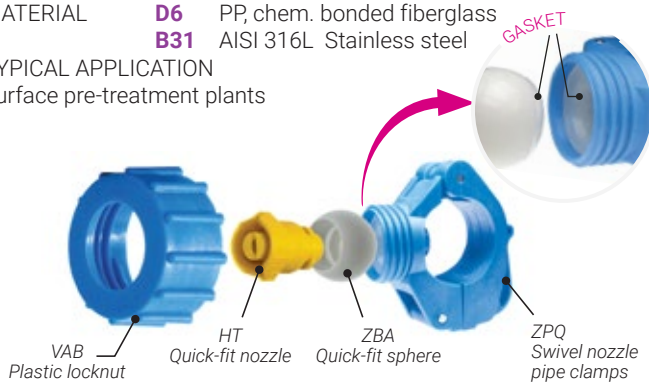
(FLAT FAN QUICK-FIT NOZZLES) **HT/QQ**

FLAT FAN QUICK-FIT NOZZLES

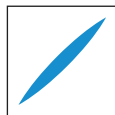
HTQ type flat fan quick-fit nozzles feature 60° spray angle and impact force for a given feed pressure. The new design offers the ideal efficiency for cleaning, quick-fit design for ease of assembly and seal that avoids leakage. Different flow rates are distinguished by color and available for selection. The materials are high quality PP, chemically bonded fiberglass in order to remain stable in high temperature and chemical attacks. They are widely used in surface pre-treatment.

SPRAY ANGLE 60°
 MATERIAL **D6** PP, chem. bonded fiberglass
B31 AISI 316L Stainless steel

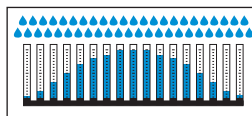
TYPICAL APPLICATION Surface pre-treatment plants



◁	CODE	Capacity at different pressure values (l/min) (bar)						Colour
		0.5	0.7	1.0	1.5	2.0	3.0	
60°	HTQ 1390 xxQQS	1.60	1.90	2.30	2.80	3.20	3.90	BLACK
	HTQ 1590 xxQQS	2.40	2.80	3.40	4.20	4.80	5.90	PURPLE
	HTQ 1780 xxQQS	3.20	3.80	4.50	5.50	6.40	7.80	LILAC
	HTQ 2117 xxQQS	4.80	5.70	6.80	8.30	9.60	11.7	YELLOW
	HTQ 2153 xxQQS	6.20	7.40	8.90	11.0	12.8	15.3	RED
	HTQ 2195 xxQQS	8.00	9.40	11.3	13.8	15.9	19.5	GREEN
	HTQ 2230 xxQQS	9.40	11.1	13.3	16.3	18.8	23.0	BLUE
	HTQ 2274 xxQQS	11.2	13.2	15.6	19.1	22.4	27.4	SKY BLUE



Spray section



Convex distribution

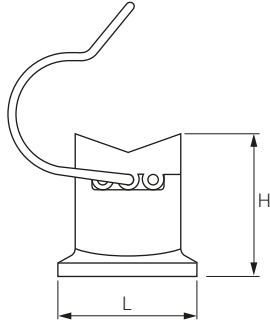


NEW! AISI 316L

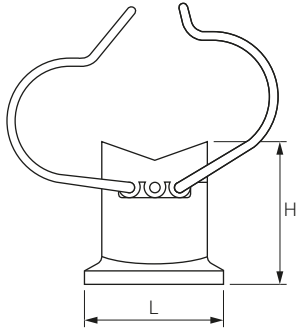
ZPG (PIPE HOLDERS)



SINGLE SPRING



DOUBLE SPRING



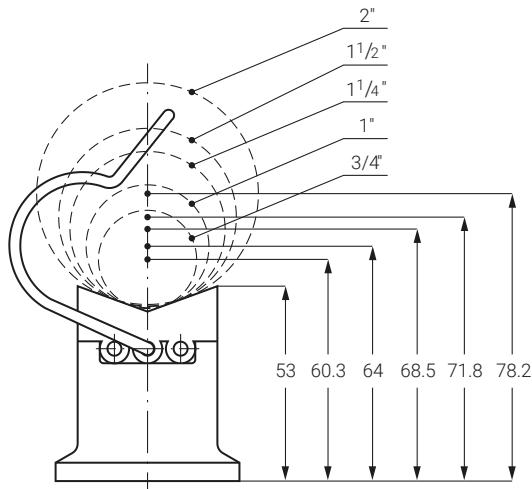
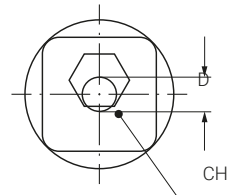
PIPE HOLDERS

ZPG pipe holders are a user-friendly and convenient solution for fixing spray manifolds onto tunnels walls in surface treatment plants. They are easy to assemble, excellent fastening and low cost. The single spring type is suitable for plastic holder whereas the double spring version is meant for metallic pipe holders.

TYPICAL APPLICATION Cleaning equipment used in pre-treatment for coating process
PIPE SIZE PS 3/4", 1", 1 1/4", 1 1/2", 2"
MATERIAL Body **D6** PP, chemically bonded fiberglass
 Springs **N1** AISI 302, heat treated

CODE		PS	D	H	L	CH	W
Single spring	Double spring	inch	mm	mm	mm	mm	g
ZPG 1075 D6	ZPG 2075 D6	3/4"	11	53	50	17	72
ZPG 1100 D6	ZPG 2100 D6	1"					72
ZPG 1125 D6	ZPG 2125 D6	1 1/4"					90
-	ZPG 2150 D6	1 1/2"					90
-	ZPG 2200 D6	2"					110

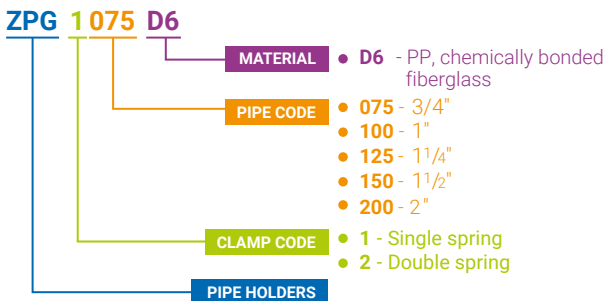
Weight values are based on the double spring version



ZPG body is designed to be fastened to the tunnel wall by means of one M10 bolt with 17 mm hexagonal head.

The drawing shows the distances of the pipe central axis from the wall for different pipe sizes assembled onto the pipe holder.

HOW TO MAKE UP THE PRODUCT CODE Ex.: ZPG 1075 D6



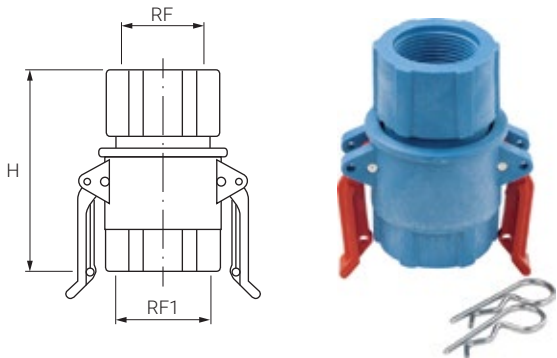
The above photo shows a top coating plant using our products.

(QUICK COUPLING JOINTS) **ZSA**

QUICK COUPLING JOINTS

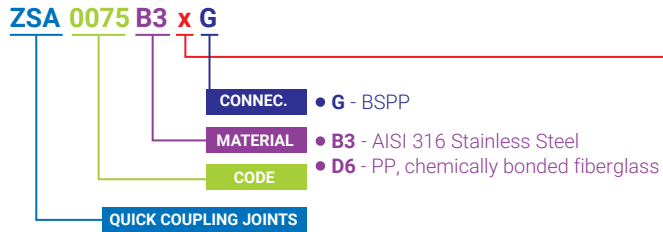
ZSA quick couplings for pipes find considerable applications in surface pre-treatment plants due to their operational flexibility and quick and easy maintenance. They have been designed for industrial applications, offer considerable strength and are made of high quality materials resistant to corrosion and structural stress.

THREAD SIZE	3/4", 1", 1-1/4", 1-1/2"
THREAD SPECIFICATION	BSPB
TYPICAL APPLICATIONS	Cleaning equipment used in pre-treatment for coating process Addition and release of liquids in chemical tankers
MATERIAL	Body D6 PP, chemically bonded fiberglass B3 AISI 316 Stainless Steel Lever B31 AISI 316L Stainless Steel, cast B35 AISI 316 Stainless Steel, sintered D8 PVDF, Polyvinylidene fluoride O-ring E0 EPDM E7 Viton E8 NBR



CODE	RF1 inch	RF inch	H mm	LP bar	W kg
ZSA 0075 B3xG	3/4"	3/4"	68	15	*
ZSA 0075 D6xG			85	9	*
ZSA 0100 B3xG	1"	1"	78	15	*
ZSA 0100 D6xG			93	7	*
ZSA 0125 B3xG	1 1/4"	1 1/4"	89	15	*
ZSA 0125 D6xG			113	7	*
ZSA 0150 D6xG	1 1/2"	1 1/4"	113	6	*
ZSA 0151 B3xG	1 1/2"	1 1/2"	83	15	*
ZSA 0151 D6xG			113	6	*

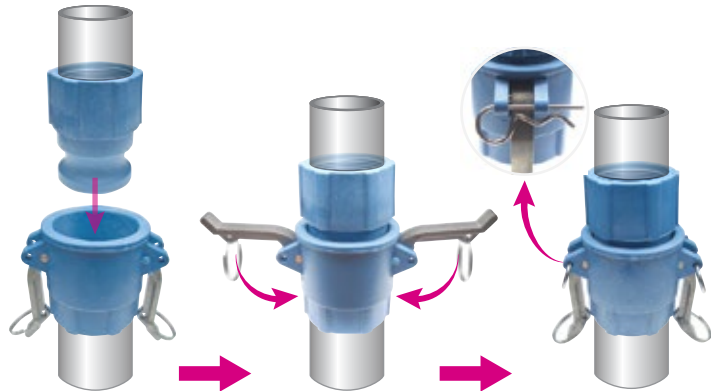
HOW TO MAKE UP THE PRODUCT CODE Ex.: ZSA 0075 B3BG



* Weight values for different materials are given on request

X	Orientation	Lever material	O-ring	Rings
B	Fixed	AISI 316L, sint	EPDM	AISI 316
C	Fixed	PVDF	EPDM	AISI 316
D	Fixed	PVDF	VITON	AISI 316
F	Fixed	PVDF	EPDM	-
G	Fixed	PVDF	VITON	-
H	Fixed	AISI 316L, sint	VITON	AISI 316
S	Free	AISI 316L, sint	EPDM	AISI 316
R	Free	AISI 316L, microf	EPDM	AISI 316
Q	Free	AISI 316, mecc.	NBR	AISI 316
T	Free	PVDF	EPDM	AISI 316
U	Free	PVDF	VITON	AISI 316
V	Free	PVDF	EPDM	-
W	Free	PVDF	VITON	-
X	Free	AISI 316, mecc.	VITON	-
Y	Free	AISI 316L, sint	VITON	AISI 316

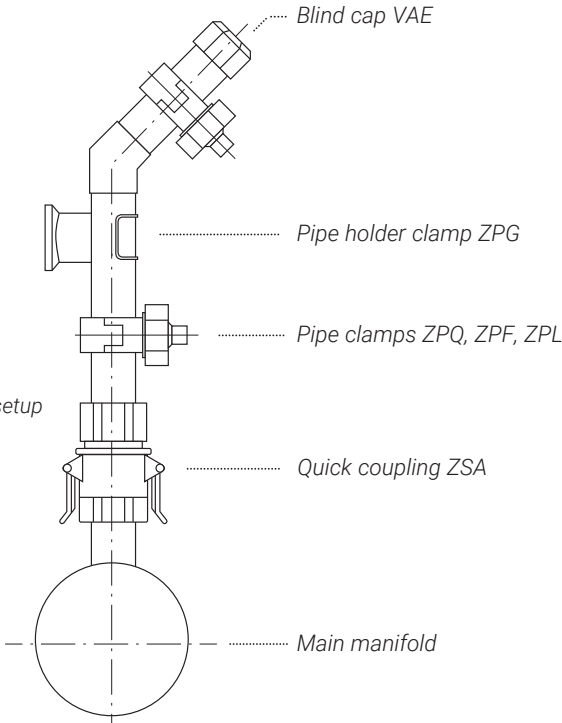
QUICK COUPLING JOINTS - INSTALLMENT



A. Join two parts of quick coupling together B. Put levers down and fasten C. Fix bolt and complete setup

QUICK FITTING RISERS AND HEADER MANIFOLDS

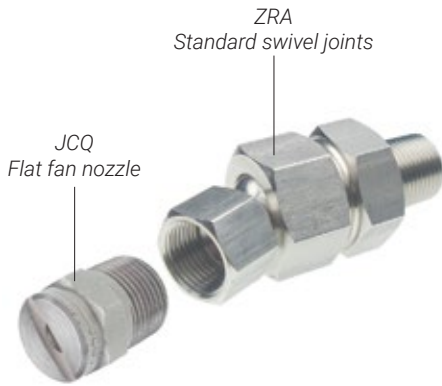
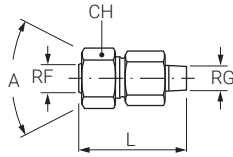
Our range of products for surface pre-treatment plants is the most complete on the market and has been developed in collaboration with the most important system manufacturers on a worldwide basis. PNR has designed most of the assembly accessories commonly adopted today in pre-treatment plants. Right figure shows the installment steps. Quick couplings and pipe holder clamps can be quickly assembled and disassembled in seconds to minimize maintenance and shut-off time.



ZRA (STANDARD SWIVEL JOINTS)



ZRA 1212 B1



STANDARD SWIVEL JOINTS

ZRA/ZRB/ZRC are standard swivel joints for manufacturing plants requiring product diversification. The fitting and adjustment of the joints can be done easily by tightening the hexagonal screw cap.

TYPICAL APPLICATIONS

Cleaning equipment used in pre-treatment for coating process
Continuous casting cooling

INLET THREAD SIZE

1/8", 1/4", 3/8", 1/2", 3/4"

OUTLET THREAD SIZE

1/8", 1/4", 3/8", 1/2", 3/4"

MAX WORKING PRESSURE

LP 21 bar

MATERIAL

B1 AISI 303 Stainless Steel

B31 AISI 316L Stainless Steel

T1 Brass

CODE	RG inch	RF inch	L mm	A deg	CH mm	W g
ZRA 1212 xx YZ	1/8"	1/8"	38	50°	22	57
ZRA 2525 xx YZ	1/4"	1/4"	59	50°	22	75
ZRA 3838 xx YZ	3/8"	3/8"	72	50°	27	155
ZRA 5050 xx YZ	1/2"	1/2"	82	50°	27	186
ZRA 7575 xx YZ	3/4"	3/4"	92	50°	41	468

CODE	RF inch	RF inch	L mm	A deg	CH mm	W g
ZRB 1212 xx YZ	1/8"	1/8"	29	50°	22	57
ZRB 2525 xx YZ	1/4"	1/4"	49	50°	22	75
ZRB 3838 xx YZ	3/8"	3/8"	52	50°	27	155
ZRB 5050 xx YZ	1/2"	1/2"	72	50°	27	186
ZRB 7575 xx YZ	3/4"	3/4"	85	50°	32	468

CODE	RF inch	L mm	A deg	CH mm	W g
ZRC 1212 xx YZ	1/8"	32	50°	22	57
ZRC 2626 xx YZ	1/4"	67	50°	27	147
ZRC 7575 xx YZ	3/4"	92	50°	32	468

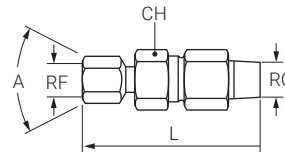
HOW TO MAKE UP THE PRODUCT CODE

ZRx 1212 xx Y Z

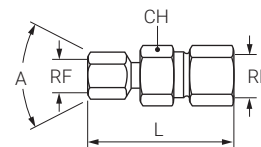
- THREAD**
 - B - BSP (female), BSPT (male)
 - N - NPT
- VARIANT**
 - S - Standard (three parts)
 - R - Reduced (two parts)
- MATERIAL**
 - B1 - AISI 303 Stainless Steel
 - B31 - AISI 316L Stainless Steel
 - T1 - Brass
- INLET THREAD SIZE**
 - 12 - 1/8"
 - 25 - 1/4"
 - 38 - 3/8"
 - 50 - 1/2"
 - 75 - 3/4"
- OUTLET THREAD SIZE**
 - 12 - 1/8"
 - 25 - 1/4"
 - 38 - 3/8"
 - 50 - 1/2"
 - 75 - 3/4"

NOZZLE TYPE	INLET	OUTLET
ZRA	Male	Female
ZRB	Female	Female
ZRC	Welded	Female

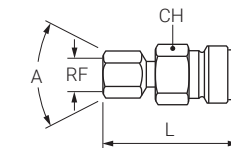
ZRA



ZRB



ZRC



(TRIANGLE FLANGED SWIVEL JOINTS) ZRP

TRIANGLE FLANGED SWIVEL JOINTS

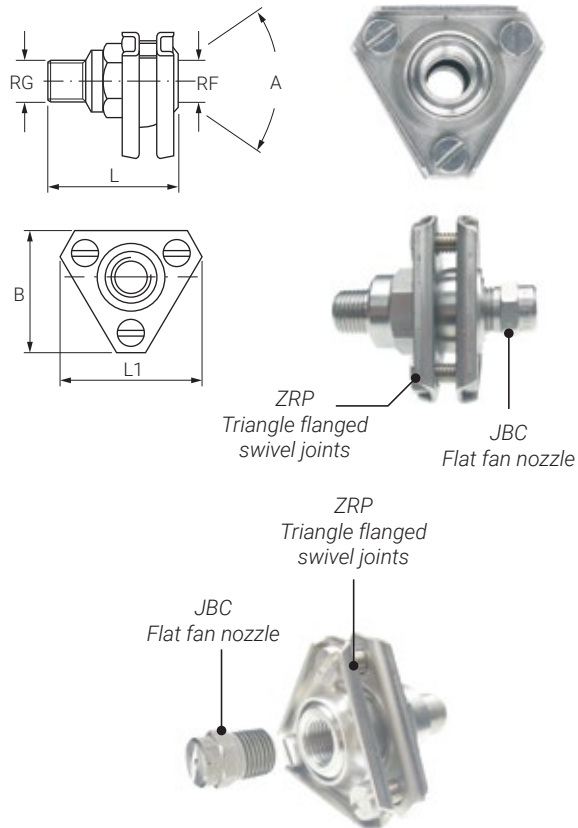
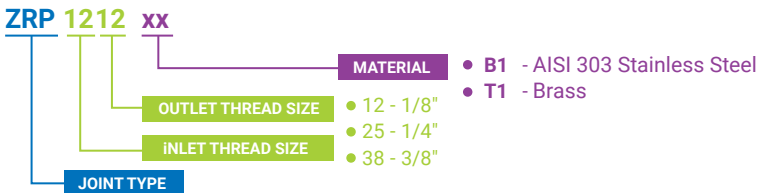
ZRP triangular flanged swivel joints have a robust metallic structure, are easy to fit and adjust and are widely used in manufacturing plants requiring product diversification.

TYPICAL APPLICATIONS Cleaning equipment used in pre-treatment for coating process, continuous casting cooling

THREAD SPECIFICATION BSP, NPT
 INLET THREAD SIZE 1/8", 1/4", 3/8"
 OUTLET THREAD SIZE 1/8", 1/4", 3/8"
 MAX WORKING PRESSURE LP 15 bar

CODE	RG inch	RF inch	L mm	B mm	L1 mm	A deg	W g
ZRP 1212 xx	1/8"	1/8"	30	40	35	50°	65
ZRP 2512 xx	1/4"	1/8"	32				92
ZRP 2525 xx	1/4"	1/4"	40	50	45	60°	140
ZRP 2538 xx	1/4"	3/8"	40				150
ZRP 3825 xx	3/8"	1/4"	40				150
ZRP 3838 xx	3/8"	3/8"	40				150

HOW TO MAKE UP THE PRODUCT CODE Ex.: ZRP 1212 B31



LARGE CAPACITY SWIVEL JOINTS

ZRQ series swivel joints are suitable for operating environments requiring large capacities and product diversification. Once set, they can be easily fitted and adjusted.

TYPICAL APPLICATIONS Cleaning equipment used in pre-treatment for coating process, continuous casting cooling

THREAD SPECIFICATION BSP, NPT
 INLET/OUTLET THREAD SIZE 1", 1 1/4", 1 1/2", 2", 2 1/2"
 MAX WORKING PRESSURE LP 9 bar
 MATERIAL B1 AISI 303 Stainless Steel, B31 AISI 316L Stainless Steel, T1 Brass

CODE	RG inch	RG1 inch	RF inch	L mm	D mm	A deg	W kg
ZRQ 8080 xx	1"	-	1"	89	92	40°	1.8
ZRQ 8282 xx	1 1/4"	-	1 1/4"	130			2.1
ZRQ 8482 xx	1 1/2"	-	1 1/4"	133			2.4
ZRR 8282 xx	1 1/4"	1 1/4"	-	130	92	40°	2.2
ZRR 8284 xx	1 1/2"	1 1/4"	-	130			2.2
ZRR 8484 xx	1 1/2"	1 1/2"	-	130			2.4
ZRR 8686 xx	2"	2 1/2"	-	203	158	40°	8.0
ZRR 8888 xx	2 1/2"	2 1/2"	-	229			8.8

HOW TO MAKE UP THE PRODUCT CODE Ex.: ZRQ 8080 B31

