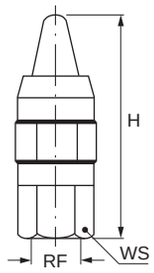
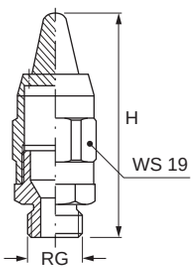
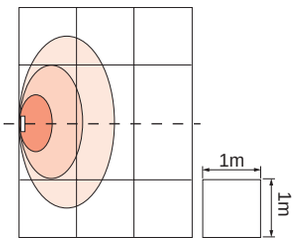
UEA D020 (FULL CONE NOZZLES)

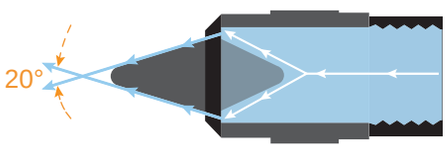






Noise level diagram at **2 bar** air pressure.

68 dB
72 dB
75 dB



These air blowers meet the requirements of American OSHA regulations

AIR BLOW-OFF NOZZLES · ROUND JET

UEA D020 compressed air blowing nozzles produce a powerful air jet concentrated on a well defined impact point. They are specially designed for deep and blind holes drying, produce lower noise and reduce pressure loss.

- Thread size: 1/4"
- Thread specification: BSP, NPT
- Material: **V7** Aluminium, electroless nickel plated; **B31** AISI 316L Stainless steel
- Typical applications: Water removal from surfaces; Flocks and water blow off

Code	RF inch	Air capacity (Nm³/hour) at different pressure values (bar) 2.0	3.0	4.0	5.0	6.0	H mm	WS mm
UEA D020 xx yy	1/4"	15	20	25	31	35	55	17

HOW TO MAKE UP THE NOZZLE CODE EX.: UEA D020 B31SG

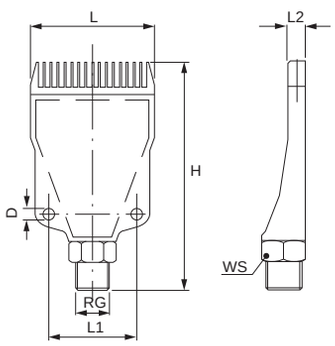
UEA D020 B31 yy

- NOZZLE TYPE
- MATERIAL
- THREAD CODES: **SG** - BSP (Female) **MG** - BSP (Male) **SN** - NPT (Female) **MN** - NPT (Male)

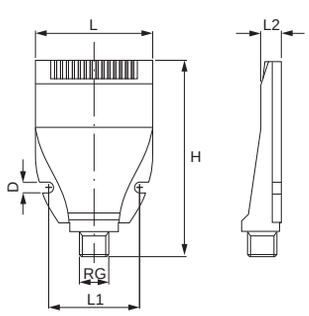
- **B31** - AISI 316L Stainless steel — **LT**: 400°C **LP**: 15 bar
- **V7** - Aluminium, electroless nickel plated — **LT**: 95°C **LP**: 15 bar

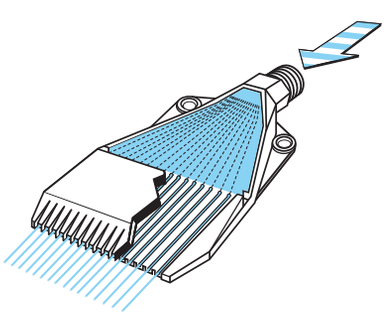
UEA 0525 / 0527 (AIR BLOWERS - FLAT FAN)

UEA 0525 E31



UEA 0527 V7



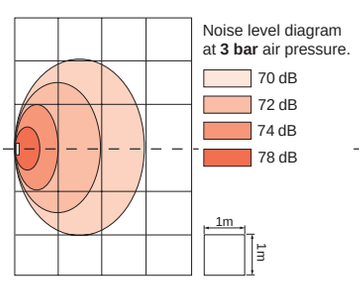


These air blowers meet the requirements of American OSHA regulations

AIR BLOWERS - FLAT FAN

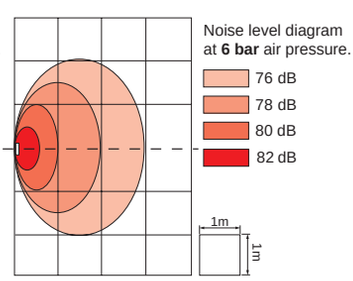
UEA series compressed air blowers are the best choice for operating environments requiring strong impact laminar sprays. The compressed air flow is blown through 16 orifices producing a strong impact jet, limited noise level and uniform spray. They are suitable to be installed on moving conveyors.

- Thread size: 1/4"
- Thread specification: BSPT, NPT
- Material: **E31** Polyacetalic resin (POM); **V7** Aluminium, electroless nickel plated
- Typical applications: Water removal from surfaces; Flocks and water blow off



Noise level diagram at **3 bar** air pressure.

70 dB
72 dB
74 dB
78 dB



Noise level diagram at **6 bar** air pressure.

76 dB
78 dB
80 dB
82 dB

Code	RG inch	Air capacity (Nm³/hour) at different pressure values (bar) 1.0	2.0	3.0	4.0	5.0	H mm	L mm	L1 mm	L2 mm	D mm	WS mm
UEA 0525 E31 yy	1/4"	10	17	22	28	33	90.0	48	35	6.5	4.5	16
UEA 0527 V7 yy		10	17	22	28	33	86.5	51	40	9.0	5.1	17

HOW TO MAKE UP THE NOZZLE CODE EX.: UEA 0525 E31SG

UEA 0525 E31 yy

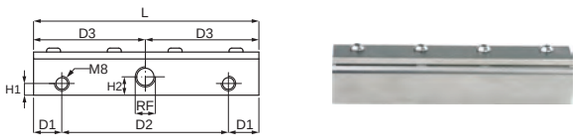
- NOZZLE TYPE
- MATERIAL
- THREAD CODES: **SG** - BSP **SN** - NPT

- **E31** - Polyacetalic resin (POM) — **LT**: 80°C **LP**: 7 bar
- **V7** - Aluminium, electroless nickel plated — **LT**: 150°C **LP**: 15 bar

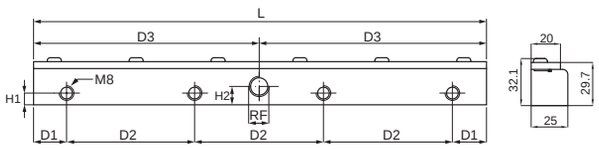
HIGH EFFICIENCY AIR KNIVES

UEB air knives produce a high impact laminar jet of compressed air. They are fully adjustable and precisely engineered with a special design based on the Coanda effect, the natural tendency of a fluid jet to be attracted to a nearby surface. The air blade coming out through their side slot follows the radiused profile and leaves the blower body with a 90° angle from the original direction. The negative pressure brings in a 20 times bigger wind volume allowing a high energy saving. They offer an excellent drying performance and eliminate static electricity.

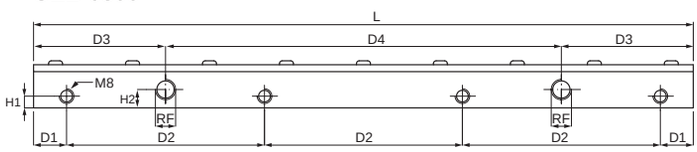
- Length: 150 mm, 300 mm, 450 mm, 600 mm
- Typical applications: Water removal from surfaces
  Flocks and water blow off
  Water removal before stick and print
- Max working temperature **LT** 95°C
- Max working pressure **LP** 7 bar
- Thread specification BSP, NPT
- Thread size 1/4"
- Materials Body **V7** Aluminium,electroless nickel plated
  B3 AISI 316 Stainless steel
  Upper plate **A9** Nickel plated steel
  B3 AISI 316 Stainless steel



UEB 0150



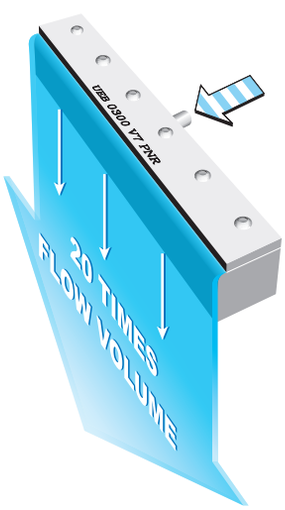
UEB 0300



UEB 0450 / UEB 0600

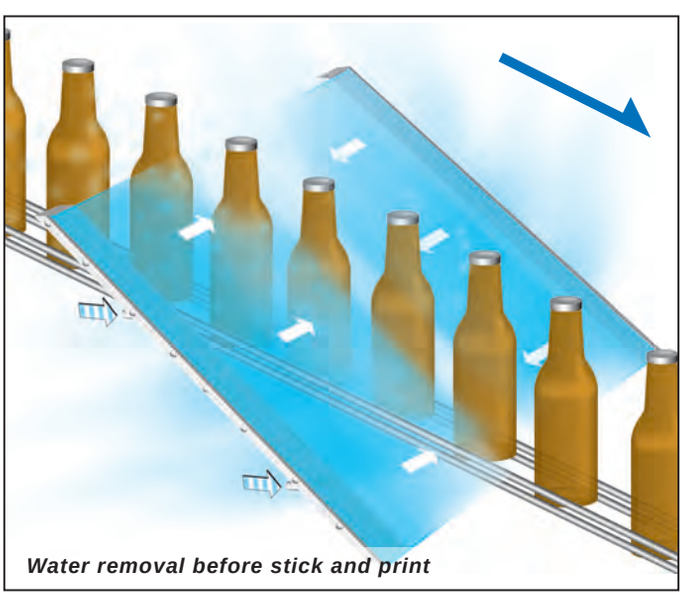
Code	RF	Air capacity (Nm³/min)										Dimensions							W
	inch	AI	AO	AI	AO	AI	AO	AI	AO	AI	AO	D1 mm	D2 mm	D3 mm	D4 mm	H1 mm	H2 mm	L mm	kg
UEB 0150 xx yy	1/4"	0.26	4.70	0.34	6.00	0.42	7.10	0.51	8.60	0.60	10.6	20.0	110	75	-	8	12.5	150	0.3
UEB 0300 xx yy		0.52	9.40	0.68	12.0	0.84	14.2	1.02	17.2	1.20	21.2	22.5	85	150	-			300	0.7
UEB 0450 xx yy		0.78	14.1	1.03	18.0	1.26	21.3	1.53	25.8	1.80	31.8	22.5	135	90	270			450	0.9
UEB 0600 xx yy		1.03	18.7	1.40	24.0	1.68	28.4	2.04	34.4	2.40	42.4	22.5	185	150	300			600	1.4
Pressure (bar)			***2,0***		***3,0***		***4,0***		***5,0***		***6,0***								

The table shows the air capacity as a function of the air pressure whereas the below graphs show the noise level as a function of the front and side distances from the nozzle outlet at an operating pressure of 2 bar. The air flow leaving the nozzle orifice drags along ambient air, the air blade produced by the nozzle (AIR OUT) has a larger flow rate which is a multiple of the feed air flow (AIR IN).

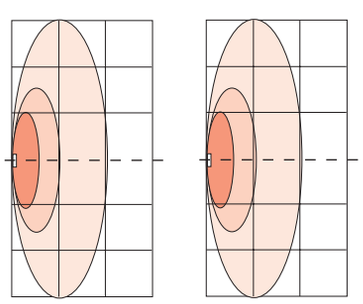


SAVE ENERGY AND INCREASE THE AMOUNT OF WIND

The compressed air exits through the side slot following the radiused profile and leaves the body with an angle of 90° from the original direction. The negative pressure brings in 20 times wind volume and saves energy consumption greatly.



Water removal before stick and print



UEB 0150 **UEB 0300**

Noise level diagram at **2 bar** air pressure.

60 dB
70 dB
80 dB

1m
1m

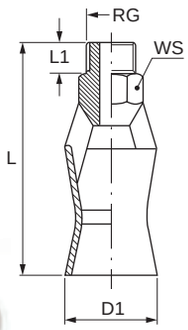
HOW TO MAKE UP THE **NOZZLE CODE**

EX.: UEB 0150 V7SG

UEB 0150 xx yy

- NOZZLE TYPE
  - **0150** - 150 mm
  - **0300** - 300 mm
  - **0450** - 450 mm
  - **0600** - 600 mm
- LENGTH
- MATERIAL
  - **V7** - Aluminium, electroless nickel plated
  - **B3** - AISI 316 Stainless steel
- THREAD CODES
  - **SG** - BSP
  - **SN** - NPT

UPB (MIXING EDUCTORS)

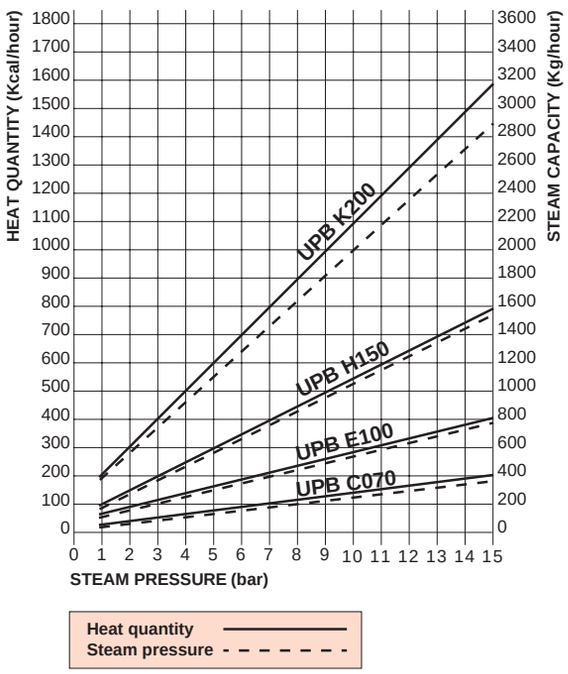


MIXING EDUCTORS

UPB mixing eductors are energy saving products. Their robust bell-shaped body minimizes the risk of damage during maintenance operations and the Venturi design assures a high mixing efficiency. These eductors enable the circulation of large volumes of liquid and are ideal for continuous blending and stirring of liquids or solutions in tanks. The UPB eductors are installed at the bottom of a tank and pressurized to spray the solution. This flow creates a powerful negative pressure that allows to take in four times the liquid volume, mix it with a solution inside the nozzle and spray it back into the tank at a high speed. 1 HP pump and UPB mixing eductor can replace a 5 HP mixing educator. UPB eductors are an efficient way to get the best performance from re-circulating process tanks and are cost-effective because they reduce the electrical costs.

- Typical applications: Liquid mixing in electroplating and automotive paint factories
- Thread specification: BSPT, NPT
- Max working temperature: **LT** 80°C (PP), 90°C (PVDF)
- Materials: **B31** AISI 316L Stainless steel; **D6** PP, chemically bonded fiberglass; **D82** PVDF, moulded (3/8" Parallel Male thread)

STEAM CONSUMPTION CHART

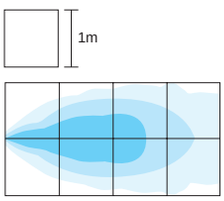


Code	RG inch	D mm	Flow rate at pressure (l/min) (bar) 1.0	2.0	3.0	4.0	5.0	D1 mm	L mm	L1 mm	WS mm
UPB C070 B31Sx	3/8"	7.0	34	48	59	68	76	45	98	15	22
UPB C070 D6Sx		7.0	34	48	59	68	76				
UPB C070 D82Sx		7.0	34	48	59	68	76				
UPB E100 B31Rx	1/2"	10.0	63	89	109	126	141	60	132	20	30
UPB E100 B31Sx	3/4"	10.0	63	89	109	126	141	60	132	20	30
UPB E100 D6Sx											
UPB H150 B31Sx	1 1/2"	15.0	155	220	268	310	346	110	225	30	60
UPB K200 B31Sx	2"	20.0	206	287	357	410	460	102	295	30	70

EX.: UPB C070 B31Sx — **x = *Thread codes***

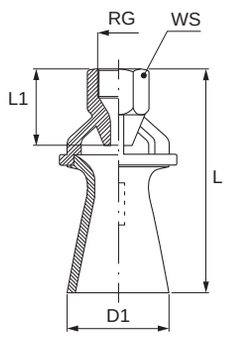
- **B** = **BSPT**, S.Steel only
- **G** = **BSPP**, PP & PVDF
- **N** = **NPT**, all materials

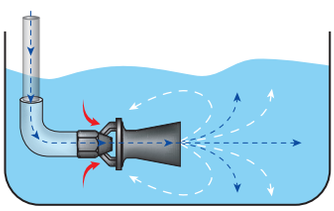
The table aside shows the working condition of UPB C070 B31 eductor when set at 50 cm depth.



Under normal operating conditions, with feed pressure values ranging from 2 to 4 bars, eductors with a total capacity equal to 20% of the liquid volume to be stirred proved to be adequate for most industrial applications. Please contact us for additional information about eductors layouts.

UPD (MIXING EDUCTORS)





MIXING EDUCTORS

UPD mixing eductors, whose design applies the "Coanda Effect", enable the circulation of large volumes of liquid. They are installed at the bottom of a tank and pressurized to spray the solution.
This flow creates a powerful negative pressure that allows to take in four times the liquid volume, mix it with a solution inside the nozzle and spray it back into the tank at a high speed. 1 HP pump and UPB mixing eductor can replace a 5 HP mixing educator. UPD eductors offer a high mixing efficiency and are cost effective because they save energy and are resistant to wear and corrosion.
UPD eductors have the same technical features of the UPB models, but they come with a female thread connection.

- Thread specification: BSPT, NPT
- Materials: **B31** AISI 316L Stainless steel; **D6** PP, chemically bonded fiberglass
- Max working temperature: **LT** 80°C (PP)
- Typical applications: Liquids mixing in electroplating, automotive painting, chemical plants.

Code	RG inch	D mm	Flow rate at pressure (l/min) (bar) 1.0	2.0	3.0	4.0	5.0	D1 mm	L mm	L1 mm	WS mm
UPD E100 D6xx	3/4"	10	63	89	109	126	141	75	147	30	34
UPD H150 D6Sxx	1 1/2"	15	141	199	243	281	313	80	225	45	60
UPD H150 B31Sxx	1 1/2"	15	141	199	243	281	313	80	239	83	60
UPD K200 B31Sxx	2"	20	206	287	357	412	460	102	295	83	70

EX.: UPD E100 D6xx — **xx = *Thread codes***

- **SG** - BSP
- **SN** - NPT

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.

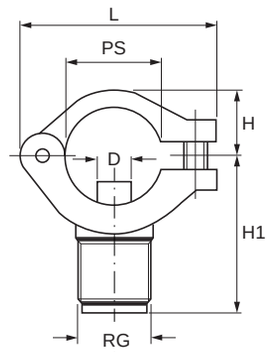
- Typical applications: Pre-treatment for coating process; Parts cleaning
- Max working temperature: **LT** 80°C
- Max working pressure: **LP** 8 bar
- Materials: Body **D6** PP, chemically bonded fiberglass; O-ring **E8** NBR; Metal parts **B2** AISI 304 Stainless steel

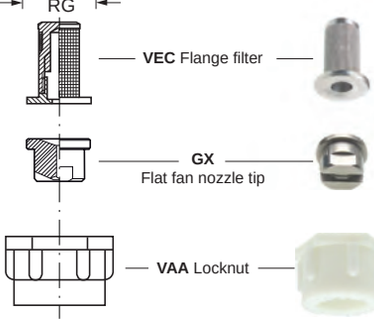
Code	RG inch	PS inch	OD mm	D mm	H mm	H1 mm	L mm	W g
ZPB 0050 D6	3/8"	1/2"	21/22	7.3	16.0	36	44	20
ZPB 0075 D6		3/4"	26/27	7.3	17.5	39	51	26
ZPB 0100 D6		1"	33/34	10.0	21.0	46	61	30

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

ZPB 0050 D6

- MATERIAL: **D6** - PP, chemically bonded fiberglass
- CODE: **0050** - 1/2"; **0075** - 3/4"; **0100** - 1"
- PIPE CLAMPS





(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.

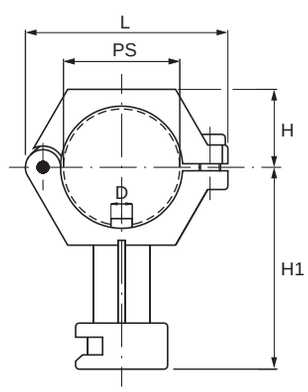
- Typical applications: PCB wet process; Pre-treatment for coating process
- Pipe size: **PS** 1/2", 3/4"
- Max working temperature: **LT** 90°C
- Max working pressure: **LP** 8 bar
- Materials: Body **D82** PVDF, moulded; O-ring **E7** Viton; Metal parts **B3** AISI 316 Stainless steel

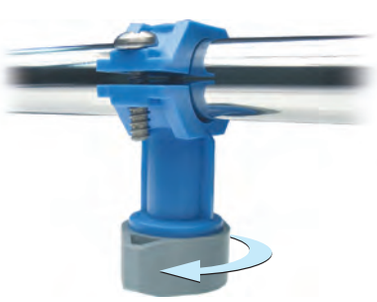
Code	PS inch	PD mm	D mm	H mm	H1 mm	L mm	W g
ZPC 0050 D82	1/2"	20/22	7.6	16.0	36	44	21
ZPC 0075 D82	3/4"	25/27	7.6	17.5	39	50	25

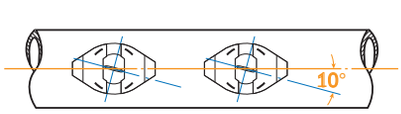
HOW TO MAKE UP THE **PRODUCT CODE** EX.: ZPC 0050 D82

ZPC 0050 D82

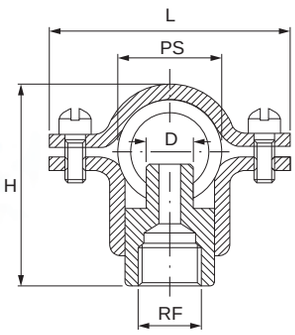
- MATERIAL: **D82** - PVDF
- CODE: **0050** - 1/2"; **0075** - 3/4"
- PIPE CLAMPS



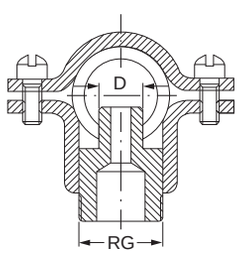




ZPM (METAL PIPE CLAMPS)



Female



Male

METAL PIPE CLAMPS

ZPM metal pipe clamps are suitable for a quick, easy and safe instalment 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** 17 bar
- Materials:
  - Body: **B2** AISI 304 Stainless steel; **A8** Zinc coated steel
  - Screws, Nipples: **B2** AISI 304 Stainless steel; **B3** AISI 316l Stainless steel; **T1** Brass
  - Gasket: **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"					
ZPM 0050 xxUW		3/8"				48	
ZPM 0075 xxAW	3/4"	1/8"	17	11	7	45	58
ZPM 0075 xxBW		1/4"					
ZPM 0075 xxUW		3/8"				53	
ZPM 0100 xxAW	1"	1/8"	17	11	7	45	65
ZPM 0100 xxBW		1/4"					
ZPM 0100 xxUW		3/8"				53	
ZPM 0125 xxYW	1 1/4"	1/4"	9	45	18	68	71
ZPM 0125 xxYW		3/8"					
ZPM 0125 xxYW		1/2"					
ZPM 0150 xxYW	1 1/2"	1/4"	9	45	18	72	90
ZPM 0150 xxYW		3/8"					
ZPM 0150 xxYW		1/2"					
ZPM 0200 xxYW	2"	1/4"	9	45	18	85	100
ZPM 0200 xxYW		3/8"					
ZPM 0200 xxYW		1/2"					
ZPM 0250 xxYW	2 1/2"	1/4"	9	45	18	110	118
ZPM 0250 xxYW		3/8"					
ZPM 0250 xxYW		1/2"					

CODE COMPLEMENTS

EX.: ZPM 0050 A8 AA

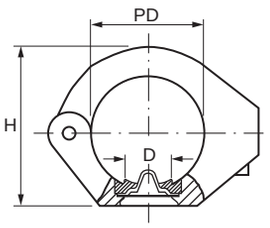
Replace xx and YW in the above codes as shown below

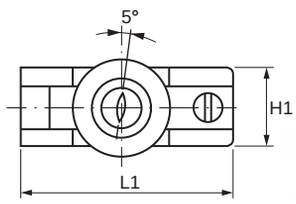
ZPM 0050 xx Y W

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 316
		D	1/2" BSP Female		
		U	3/8" BSP Male		

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** 80°C
- Max working pressure **LP** 7 bar
- Fitting dimensions
  - Outer pipe diameter **50 mm**
  - Inner pipe diameter **47 mm**
  - Feed hole **19 mm**
- Materials
  - Clamp **D6** PP, chemically bonded fiberglass
  - Pin, bolt **B3** AISI 316 Stainless steel
- Typical application: Paper machines self-cleaning pipes

Code	OD 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

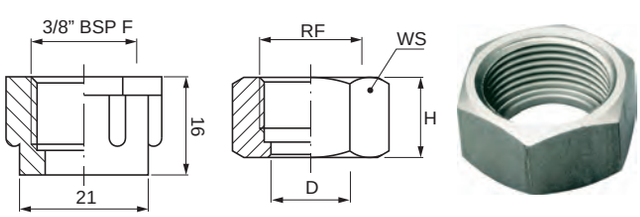
ZPH 0150 D6

MATERIAL • **D6** - PP, chemically bonded fiberglass

PIPE CLAMP

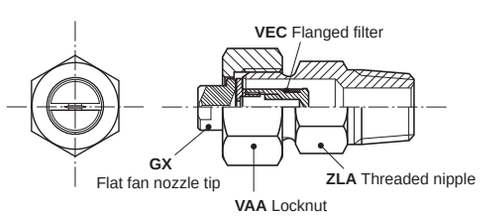
LOCKNUTS

VAA locknuts go with ZAA, ZAC, ZLA and ZPB to fix different nozzles.



VAA 0380 D6B

Code	RF inch	D mm	H mm	WS mm	Material Plastic	Material 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	1¼"	32.5	27	50		•



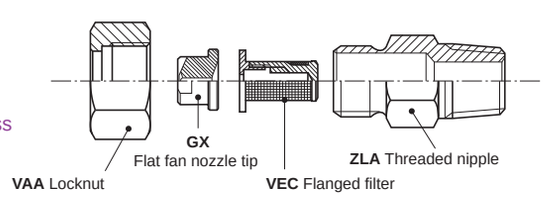
HOW TO MAKE UP THE **PRODUCT CODE** EX.: VAA 0380 B1B

VAA 0380 xxB

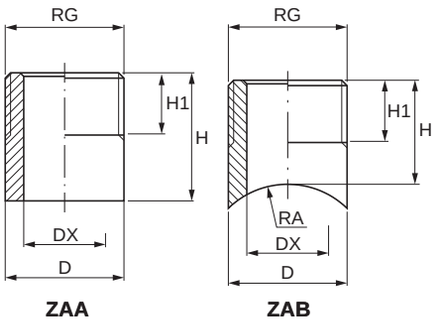
LOCKNUTS

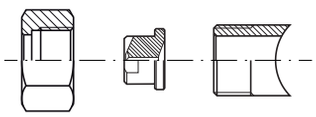
CODE
- **0380** - 3/8"
- **0381** - 3/8"
- **0750** - 3/4"
- **1250** -1¼"

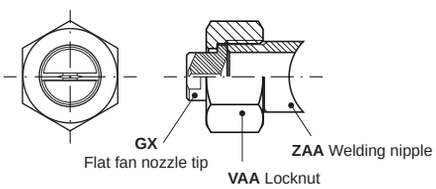
MATERIAL
- **B1** - AISI 303 Stainless steel
- **B3** - AISI 316 Stainless steel
- **D6** - PP, chemically bonded fiberglass
- **T1** - Brass



ZAA / ZAB (STANDARD WELD NIPPLES)







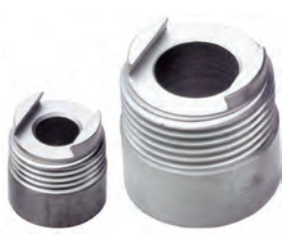
STANDARD WELD NIPPLES

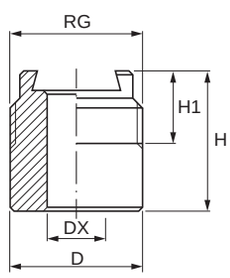
ZAA/ZAB welding nipples allow the assembly of GX, BX or KX series nozzle tips onto pipes and spray manifolds. One end of the nipple is fixed onto the pipe and the other to the nozzle tip. ZAA is a standard model with a flat welding surface. ZAB is radiused type with a curved welding surface that fits 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. Please refer to page 91 for more information.

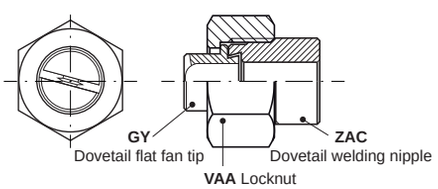
- Thread size 3/8", 3/4"
- Materials **B1** AISI 303 Stainless steel
  B31 AISI 316L Stainless steel

Code	RG inch	H mm	H1 mm	D mm	DX mm	RA mm	W g
STANDARD							
ZAA 1738 xx	3/8"	18	10	17	11.5	-	20
ZAA 2775 xx	3/4"	27	15	27	18.0	-	61
RADIUSED							
ZAB 1738 xxD	3/8"	18	10	17	11.5	10.0	20
ZAB 1738 xxE						12.5	
ZAB 1738 xxF						16.0	
ZAB 1738 xxG						20.0	
ZAB 1738 xxH						25.0	

ZAC (DOVETAIL WELDING NIPPLES)







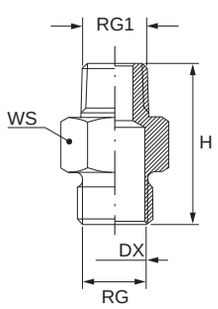
DOVETAIL WELDING NIPPLES

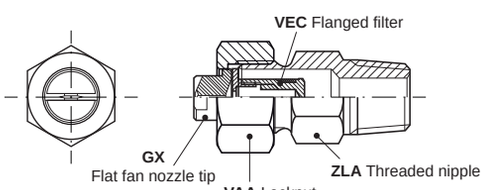
ZAC welding nipples are manufactured with a dovetail end to match GY type dovetail nozzle tips.
One end of the nipple is fastened onto the pipe and the other end to the nozzle tip by means of a VAA locknut. The dovetail design of these nipples keeps them properly orientated in the desired position, thus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

- Thread size 3/8", 3/4", 1 1/4"
- Material **B31** AISI 316L Stainless steel

Code	RG inch	H mm	H1 mm	D mm	DX mm	W g
ZAC 1738 xx	3/8"	18.0	10.0	17	7.5	20
ZAC 2775 xx	3/4"	27.5	14.0	27	14.0	61
ZAC 4225 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. Please find more information on page 91.

Code	RG inch	RG1 inch	DX mm	H mm	WS mm	W g
ZLx 3825 xxB	3/8"	1/4"	7.5	32.5	19	25
ZLx 3838 xxB	3/8"	3/8"	10.0	35.0	19	25
ZLx 7575 xxB	3/4"	3/4"	18.0	35.0	32	90

HOW TO MAKE UP THE **PRODUCT CODE**

EX.: ZLA 3825 B1B

ZL x 3825 xxB

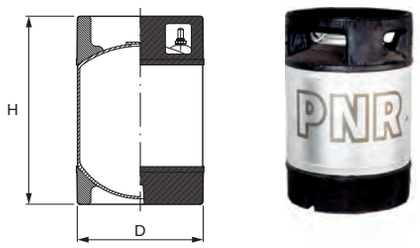
- NIPPLE
- CONNECTION
  - A =BSPT
  - C =BSP
- CODE
- MATERIAL
  - **B31** - AISI 316L Stainless steel
  - **T1** - Brass

PRESSURE TANKS

UMR pressure tanks are widely used to spray liquids under pressure containing disinfectants and so on. They are an excellent choice as they make it possible to deliver liquids to air atomizers without requiring expensive pumps and can also be operated as mobile units.

- Inlet / Outlet diameter — Quick connection or 1/4" PT (Female)
- Max working pressure — **LP** 9 bar
- Materials
  - Body — **B2** AISI 304 Stainless steel
  - Base & Handles — **E8** Synthetic rubber (NBR)
  - Quick connection — **E31** Delrin® - B2 AISI 304
  - O-Ring — **E0** EPDM

Code Cover only	Cover and nipples	**CA** liters	**D** mm	**H** mm	**W** kg	**LP** bar
UMR 0090 B2	**UMR C090 B2**	9	232	340	3.7	9
UMR 0190 B2	**UMR C190 B2**	19	219	630	4.3	9



CE Marking

UMR pressure tanks comply with the requirements of the European 97/23/CE (PED) norm.

PRESSURE TANKS - ACCESSORIES

XUM R100 E31	**Liquid connection kit** connection: 7/16-20UNF	
XUM R110 E31	**Air connection kit** connection: 7/16-20UNF	

Please note that both connection kit, air and liquid, can only be supplied as a complete assembly, it is not possible to supply single components.

PRESSURE TANK OPERATION

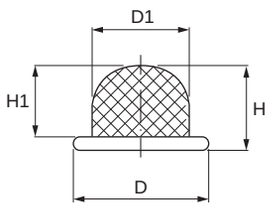
Remove the pressure tank cover, fill in the liquid and put the cover back on. Fill the tank with compressed air. The liquid is pushed out (see picture above) by the pressure inside the tank which is higher than the outside pressure. Generally, we recommend to add a gas pressure regulator and a pressure gauge on the pressure tank inlet and outlet to adjust inside and outside pressures.

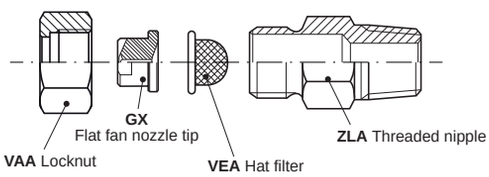
AUTO-DISINFECTION SYSTEM

The cart shown on the right is specially designed for disinfection in hospital areas where bacteria and germs must be safely eliminated. It's a portable small-sized complete system for automatic disinfection. Spray time and capacity can be automatically set. Its spray system is activated by an infrared rays sensor that safely detects people passing in its proximity.

VEA (HAT FILTERS)

VEA





HAT FILTERS

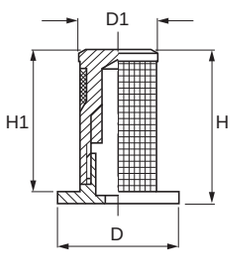
VEA series hat-shaped filters are specially designed for 3/8" flanged nozzles and ZPB clamps.

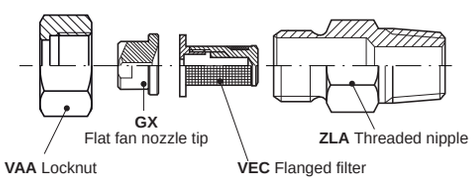
- Mesh number: 50, 75, 100 mesh
- Materials Collar: **T9** Copper
- Wire net: **B3** AISI 316 Stainless steel
- Typical application: Filtering before spraying liquids

Code	D mm	D1 mm	H mm	H1 mm	M mesh	Nozzle code
VEA 0138 T9	14.5	9.5	8.5	7.3	100	GX BX FX KX
VEA 0238 T9					75	
VEA 0338 T9					50	

VEC (FLANGED FILTERS)

VEC





FLANGED FILTERS

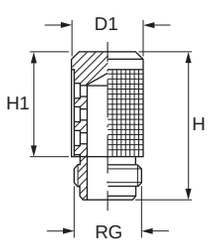
VEC check-valve filters are specially designed for 3/8" flanged nozzles. Large filtering surface grants long exercise period without cleaning necessity. We recommend to assemble these filters on small capacity nozzles to avoid clogging and enhance their performance.

- Materials Body: **B1** AISI 303 Stainless steel
  B31 AISI 316L Stainless steel
  D3 Nylon
  T1 Brass
- Wire net: **B2** AISI 304 Stainless steel
- Typical application: Filtering before spraying liquids

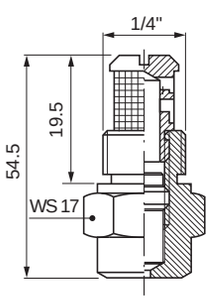
Code	D mm	D1 mm	H mm	H1 mm	M mesh	Nozzle code
VEC 0138 xx	15.0	10.0	20.0	18.5	100	GX BX FX KX
VEC 0238 xx					75	
VEC 0338 xx					50	

VEF (THREADED FILTERS)

VEF



VEF + RZ



THREADED FILTERS

VEF threaded filters are specially designed for 1/4" J series flat fan nozzles and RX/RZ hollow cone nozzles. They provide a top filtering action and protect nozzle tips. We recommend to assemble threaded filters on small capacity nozzles to avoid clogging and enhance their performance.

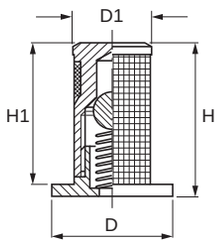
- Thread size: 3/8" UNF
- Mesh number: 50, 75, 100 mesh
- Materials Body: **B1** AISI 303 Stainless steel
  B3 AISI 316 Stainless steel
  B31 AISI 316L Stainless steel
  T1 Brass
- Wire net: **B2** AISI 304 Stainless steel
- Typical application: Filtering before spraying liquids

Code	D1 mm	RG inch	H mm	H1 mm	M mesh	Nozzle code
VEF 0038 B3	8.1	M7	15.7	13.2	120	**JA** (1/8")
VEF 0138 xx	10.2	3/8"UNF	21.0	15.0	100	**JB** (1/4")
VEF 0238 xx					75	**RX** (1/4")
VEF 0338 xx					50	**RZ** (1/4")

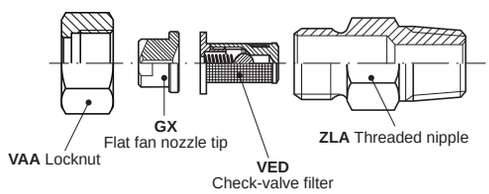
CHECK-VALVE FILTERS

VED series check-valve filters are specially designed for 3/8" flanged nozzles. VED filters contain a one-way ball valve to avoid dripping when spray is turned off. They also serve to protect the nozzle tips. We recommend to assemble check-valve filters on small capacity nozzles to avoid clogging and enhance their performance.

- Opening pressure: 1.4, 2.8 bar
- Wire net mesh size: 50, 75, 100 mesh
- Materials Body B1 AISI 303 Stainless steel
  B31 AISI 316L Stainless steel
  D3 Nylon
  T1 Brass
  Wire net B2 AISI 304 Stainless steel



VED



Code	D mm	D1 mm	H mm	H1 mm	M mesh	Opening bar
VED 0138 xxC	15	10	20	18.5	100	1.4
VED 0238 xxC					75	
VED 0338 xxC					50	
VED 0138 xxD	15	10	20	18.5	100	2.8
VED 0238 xxD					75	
VED 0338 xxD					50	

CARTRIDGE SIZE TABLE

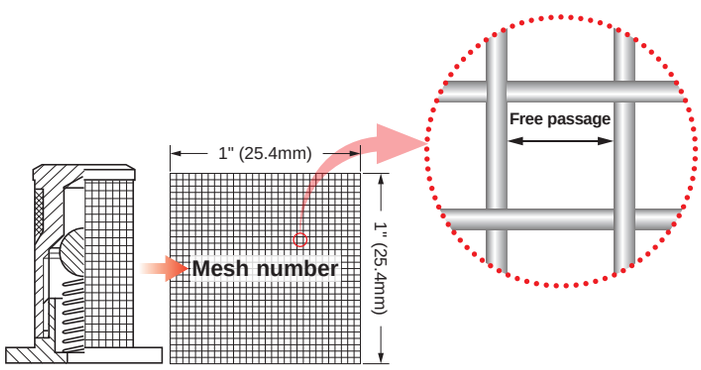
To figure out mesh sizes one has to count the number of openings from the centre of any one wire to the centre of a parallel wire one inch away. The number of openings in a filter cartridge is the mesh size. We highly recommend to add filters to small capacity nozzles to hold fine particulate matter. Please refer to the table below.

HOW TO CHOSE THE PROPER FILTER ?

The largest filter free passage < nozzle orifice

Ex : If the nozzle tip diameter is 0.3 mm, we suggest you to choose a 60 mesh filter or more (free passage 0.25 mm). Please consider that the higher is the number of mesh, the greater is the filtering power.

Mesh number	Free passage mm
30 - 32	0.6 - 0.58
50	0.3
60	0.25
75	0.2
80	0.18
100	0.15
150	0.1
200	0.075



We offer a large assortment of VE series filters for your convenience. Please refer to below table.

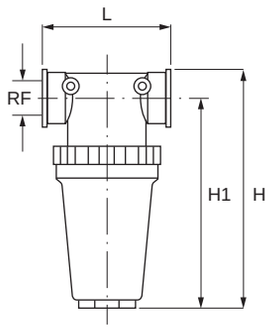
Code	VEC	VED	VEF	VEA
Appearance	 Flanged filter	 Check-valve filter	Threaded filter	 Hat filter
B1 / AISI 303	•	•	•	
B31 / AISI 316L	•	•	•	
D3 / Nylon	•	•		
T1 / Brass	•	•	•	
T9 / Copper				•

HOW TO MAKE UP THE **FILTER CODE** EX.: VED 0138 B1C

VED 0138 xx C

- **OPENING PRESSURE**
  - **C** - 1.4 bar
  - **D** - 2.8 bar
- **MATERIAL**
  - **B1** - AISI 303 Stainless steel
  - **B31** - AISI 316L Stainless steel
  - **D3** - Nylon
  - **T1** - Brass
  - **T9** - Copper
- **MESH**
  - **0138** - 100mesh
  - **0238** - 75mesh
  - **0338** - 50mesh
- **FILTER TYPE**
  - **VEC** - Flanged filters
  - **VED** - Check-valve filters
  - **VEF** - Threaded filters
  - **VEA** - Hat filters

VEH (PLASTIC BODY FILTERS)



PLASTIC BODY FILTERS

VEH filters with plastic body are a rational and economic solution for most operating environments. The threaded coupling between bowl and head allows a quick filter cleaning and easy replacement of the cartridge and no need of tools. They have a high particles retention and are durable.

- Inlet / Outlet thread size: 1/2", 3/4", 1", 1¼", 1½"
- Max steam pressure: **LP** from10 bar to 15 bar
- Capacity: **LQ** 250 l/min
- Materials: Body **D6** Polypropylene + 30% Glass fiber; Seal **E0** EPDM; Cartridge **B2** AISI 304 Stainless steel
- Typical application: Filtering before spraying liquids

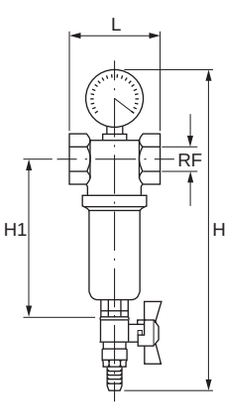
Code	RF inch BSPP	H mm	H1 mm	L mm	Q l/min	Cartridge	M mesh
VEH 0050 D21	1/2"	136	118	99	140	XVE H050 DA2	32
VEH 0051 D21						XVE H051 DA2	50
VEH 0052 D21						XVE H052 DA2	100
VEH 0075 D21	3/4"	136	118	99	140	XVE H050 DA2	32
VEH 0076 D21						XVE H051 DA2	50
VEH 0077 D21						XVE H052 DA2	100
VEH 0100 D21	1"	165	143	107	140	XVE H053 DA2	32
VEH 0101 D21						XVE H054 DA2	50
VEH 0102 D21						XVE H055 DA2	100
VEH 0125 D21	1¼"	279	239	146	250	XVE H060 DA2	32
VEH 0126 D21						XVE H061 DA2	50
VEH 0127 D21						XVE H062 DA2	100
VEH 0150 D21	1½"	279	239	146	250	XVE H060 DA2	32
VEH 0151 D21						XVE H061 DA2	50
VEH 0152 D21						XVE H062 DA2	100

HOW TO MAKE UP THE FILTER CODE — EX.: VEH 0050 D21

VEH 0050 D6

- D6 (MATERIAL) - Polypropylene
- 0050 (THREAD)
- VEH (FILTER TYPE)

VEL (BRASS BODY FILTERS)



BRASS BODY FILTERS

VEL type filters with body in brass are the ideal solution for small plants requiring easy cleaning and maintenance. When necessary, simply open the valve at the bottom of the filter and the dirt contained inside the cartridge is easily expelled. A manometer on the filter head shows the outlet pressure hence pressure drop when clogged.

- Inlet / Outlet thread size: 1/2", 3/4", 1", 1¼", 1½", 2"
- Max operation temperature: **LT** 100°C
- Max steam pressure: **LP** 16 bar
- Materials: Body **T8** Nickel plated brass; Cartridge **B2** AISI 304 Stainless steel
- Typical application: Filtering before spraying liquids

Code	RF inch BSPP	H mm	H1 mm	L mm	Q l/min	Cartridge	M mesh
VEL 0039 T8	3/8"	285	133	50	14	XVE L171 B2	150
VEL 0051 T8	1/2"	288	136	56	25		
VEL 0076 T8	3/4"	287	132	67	38	XVE L172 B2	
VEL 0101 T8	1"	295	137	80	72		
VEL 0126 T8	1¼"	343	169	92	118	XVE L200 B2	
VEL 0151 T8	1½"	356	179	110	178	XVE L201 B2	
VEL 0201 T8	2"	362	179	110	213		

HOW TO MAKE UP THE FILTER CODE — EX.: VEL 0039 T8

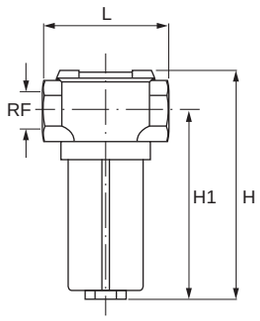
VEL 0039 T8

- T8 (MATERIAL) - Nickel plated brass
- 0039 (THREAD)
- VEL (FILTER TYPE)

LARGE CAPACITY FILTERS

VEM filters are specially designed for high particle retention, easy maintenance and great efficiency in harsh operating conditions. Their bowl houses a large size cartridge for a longer operating life and reduced servicing times. The threaded connection to the filter body allows a quick removal with no need of tools. A plug placed at the bottom of the bowl allows to fit in a ball valve to purge the filter.

- Thread size: 1/2", 3/4", 1", 1¼", 1½", 2", 2½", 3"
- Wire net mesh size: 60, 80 mesh; other sizes available on request
- Max working pressure: **LP** 20 bar
- Materials: Body & bowl **V1** Aluminium casting; Cartridge **B2** AISI 304 Stainless steel
- Typical application: Filtering before spraying liquids



Mesh number	Free passage mm
30 - 32	0.6 - 0.58
50	0.3
60	0.25
75	0.2
80	0.18
100	0.15
150	0.1
200	0.075

HOW TO MAKE UP THE **FILTER CODE**

EX.: VEM 0050 V1

VEM 0050 V1

MATERIAL ● **V1** - Aluminium casting

THREAD

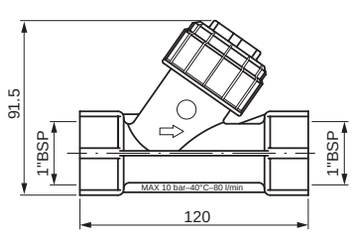
FILTER TYPE

Code	RF inch BSPP	H mm	H1 mm	L mm	LP bar	Q l/min	Cartridge	M mesh	W kg
VEM 0050 V1	1/2"	210	152	105	40	70	XVE M075 B2	60	0.9
VEM 0051 V1							XVE M076 B2	80	
VEM 0075 V1	3/4"	210	152	105	40	95	XVE M075 B2	60	
VEM 0076 V1							XVE M076 B2	80	
VEM 0100 V1	1"	210	152	105	40	140	XVE M075 B2	60	
VEM 0101 V1							XVE M076 B2	80	
VEM 0125 V1	1¼"	270	210	140	30	280	XVE M150 B2	60	1.6
VEM 0126 V1							XVE M151 B2	80	
VEM 0150 V1	1½"	270	210	140	30	315	XVE M150 B2	60	
VEM 0151 V1							XVE M151 B2	80	
VEM 0200 V1	2"	400	318	200	10	750	XVE M300 B2	30	5.6
VEM 0201 V1							XVE M301 B2	60	
VEM 0202 V1							XVE M302 B2	80	
VEM 0250 V1	2½"	400	318	200	10	810	XVE M300 B2	30	
VEM 0251 V1							XVE M301 B2	60	
VEM 0252 V1							XVE M302 B2	80	
VEM 0300 V1	3"	400	318	200	10	1050	XVE M300 B2	30	
VEM 0301 V1							XVE M301 B2	60	
VEM 0302 V1							XVE M302 B2	80	

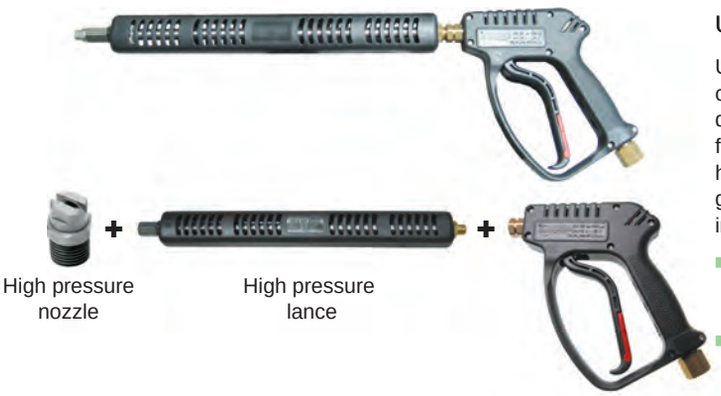
“Y” STYLE FILTER

VEQ xxGF B3G filter is widely used in all types of nozzles filtering systems. It allows for quick cleaning and replacement with no need of tools.

- Inlet / Outlet thread size: ½” ¾” 1"
- Mesh: 60 Mesh
- Max operation temperature: **LT** 40°C
- Max operation pressure: **LP** 10 bar
- Max capacity: **LQ** 80 l/min
- Materials: Body **D6** PP, chemically bonded fiberglass; Cartridge **B3** AISI 316l Stainless steel
- Typical application: Filtering before spraying liquids



VEQ xxGF B3G



High pressure nozzle

High pressure lance

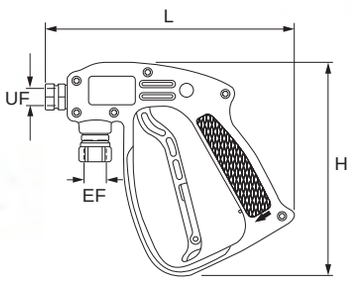
High pressure gun

UMW SERIES HIGH PRESSURE GUNS

UMW series spray guns are specially designed for high pressure cleaning. The main features are: light weight and easy to handle, heavy duty durability, high temperatures and high pressures resistant, low failure rate, low price. They can be supplied with a variety of pressure hoses and nozzles for all types of cleaning requirements. UMW spray guns are widely and successfully used in car washing and many other industrial applications.

- Typical applications: Products cleaning; Equipment cleaning; Vehicles cleaning
- Materials — Body: **D4** Nylon, Glassfibers reinforced
  Inside parts: **B1** AISI 303 Stainless steel; **C3** AISI 440 Stainless steel, hardened; **T1** Brass

UMW 0010 D4

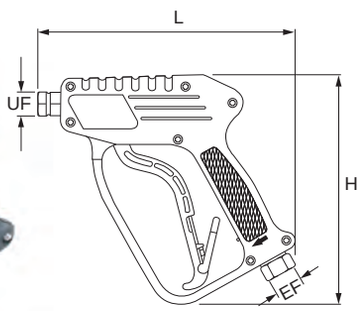


UMW 0010 D4 series economical and efficient spray guns are widely applied in industrial high pressure cleaning and car wash.

- Nominal pressure 200 bar
- Max operation pressure **LP** 220 bar
- Max operation temperature **LT** 160 °C
- Max capacity **LQ** 30 l/min

Code	Inlet thread size EF	Outlet thread size UF	H mm	L mm	W kg
UMW 0010 D4	3/8"	1/4"	162	185	0.27

UMW 0020 D4



UMW 0020 D4 guns are suitable for heavy duty applications. They are light and have an ergonomical easy-grip handle. These spray guns are highly appreciated for operations requiring high pressure and large capacity.

- Nominal pressure 310 bar
- Max operation pressure **LP** 350 bar
- Max operation temperature **LT** 160 °C
- Max capacity **LQ** 40 l/min

Code	Inlet thread size EF	Outlet thread size UF	H mm	L mm	W kg
UMW 0020 D4	3/8"	1/4"	183	202	0.78

HIGH PRESSURE GUNS

Code	UMW 0020 D4 (Brass) Standard high pressure gun	UMW 0021 D4 (Brass) Swivel high pressure gun	UMW 0020 B1 (AISI 303) Sanitary high pressure gun
Appearance			
Code	**UMW 0020 D4**	**UMW 0021 D4**	**UMW 0020 B1**
Inlet thread size	3/8" BSP Female	3/8" BSP Female	3/8" BSP Female
Outlet thread size	1/4" BSP Female	1/4" BSP Female	1/4" BSP Female
Max operating pressure	350 bar	280 bar	280 bar
Max operating temperature	160°C	160°C	160°C
Max capacity	40 l/min	40 l/min	40 l/min
Inner parts	Brass	Brass	AISI 303
Outside shell	PP, chemically bonded fiberglass	PP, chemically bonded fiberglass	PP, chemically bonded fiberglass
Weight	0.78 kg	0.78 kg	0.83 kg
Swivel	✕	✓	✕
Security lock	✓	✓	✓

HIGH PRESSURE LANCE

Appearance			
Code	**UMW 0038 A8**	**UMW 0045 B2**	**UMW 0047 B2**
Liquid inlet diameter	1/4" BSPT Male	1/4" BSPT Male	1/4" BSPT Male
Liquid outlet diameter	1/4" BSP Female	1/4" BSP Female	1/4" BSP Female
Max operating pressure	280 bar	280 bar	200 bar
Max operating temper.	160°C	160°C	160°C
Spray lance	Zinc coated steel	AISI 304	AISI 304
Shank	Brass	AISI 303	AISI 303
Plastic material	PP, chemically bonded fiberglass	PP, chemically bonded fiberglass	PP, chemically bonded fiberglass
Length	380 mm	1200 mm, 1500 mm 1700 mm, 2000 mm	700 mm
Weight	0.4 kg	0.9 kg, 1.1 kg, 1.3 kg, 1.4 kg	0.56 kg

HIGH PRESSURE NOZZLES

Appearance			
Code	**F series high pressure nozzles**	**UMW 0050 B2**	**UMW 0060 D2**
Spray pattern	Straight / Flat fan (Fixed)	Straight / Flat fan (Free)	High pressure water (360°)
Spray angle	0°, 15°, 25°, 40°, 65°	0° ~ 40°	40°
Capacity	3.4 ~ 68.2 l/min at 100 bar	10.3 l/min at 100 bar	6.86 ~ 18.1 l/min at 100 bar
Thread size	1/4" BSP Male	1/4" BSP Female	1/4" BSP Female
Min operating pressure	--	--	80 bar
Max operating pressure	500 bar	280 bar	250 bar
Max operating temper.	600°C	90°C	100°C
Nozzle material	AISI 416	AISI 420	AISI 420
Shank	--	Brass	Brass
Plastic material	--	PP, chemically bonded fiberglass	PP, chemically bonded fiberglass

UMX 0020 T8

UMX SERIES WASH GUNS

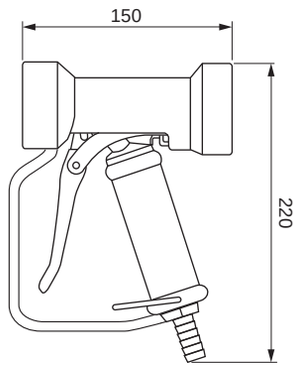
UMX series spray guns are specially designed for heavy industrial cleaning. They are available in three different models, all featuring relevant advantages:

- Long operating life
- Ergonomic design for easy handling
- Drip-free and high sensitivity
- Safety trigger-lock
- Adjustable spray angle **UMX 0010**
- Variety of complementary hoses and nozzles **UMX 0020**
- Made in stainless steel to meet hygiene standards **UMX 0010 B3**
- Max temperature **90°C**
- Wide spray range **0 ~ 100 l/min**
- Typical applications: products cleaning, equipment cleaning

WASH GUNS			
Code	**UMX 0010 T8 Standard wash gun (Brass)**	**UMX 0010 B3 Sanitary wash gun (AISI 316)**	**UMX 0020 T8 Functional wash gun (Brass)**
Appearance			
Code	**UMX 0010 T8**	**UMX 0010 B3**	**UMX 0020 T8**
Spray pattern	Straight / Hollow cone (adjustable)	Straight / Hollow cone (adjustable)	--
Spray angle	0° ~ 60°	0° ~ 60°	Universal nozzle
Inlet thread size	1/2" BSP Female	1/2" BSP Female	1/2" BSP Female
Outlet thread size	--	--	1/2" BSP Female
Max operating pressure	24 bar	24 bar	24 bar
Max operating temperature	90°C	90°C	90°C
Max capacity	100 l/min	60 l/min	100 l/min
Metal parts	Brass, nickel plated	AISI 316	Brass
Plastic material	Rubber	Rubber	Rubber
Weight	1.05 kg	1.05 kg	1.05 kg
Swivel	✓	✓	✓
Lock-ring	✓	✓	✓

HOT WATER SPRAY GUN

UMV series wash-guns have been specially designed for use in food, chemical and steel industry. They avoid hot water waste and their ergonomic shape makes them easy to handle. Their thick rubber casing safely protects operators' hands from hot water and avoids to damage floors and equipments in case the gun falls on the ground. Standard spray guns have a safety trigger-lock, a easy-hold grip and a swivel button at the end of the piston to adjust the spray angle to the desired direction. These spray-guns are constructed to match foam lances, bar lances and hot air lances. The chrome-plated brass model is used for normal operating environments whereas the version in stainless steel AISI 316 is suitable for use in the food and biotechnology industry and fully complies with European and American Directives for industrial production facilities.



UMV 2210 xx

- Max working temperature **LT** 80°C
- Max working pressure **LP** 25 bar
- Max capacity **LQ** 21 l/min (UMV2210 at 3 bar)

- Thread size 1/2" BSP
- Spray angle 5°~ 65°
- Hose shank 13 mm - 1/2" hose fitting
- Weight 0.9 kg
- Materials
  - Body **T2** Brass casting, chrome plated
    B3 AISI 316 Stainless steel
  - Lining **E0** EPDM
  - Stem **B3** AISI 316 Stainless steel
  - Trigger **B3** AISI 316 Stainless steel

The versatility of this wash-gun is enhanced by the additional model UMV 2211 which can be assembled to nozzles or lances thanks to its 1/2" female thread. The three different lances shown here below can be easily assembled to the gun body with a 1/2" male nipple for various uses:

1. Foaming machines and equipment before washing. The foam lance comes with a quick-connect female coupling and the wash-gun outlet must be provided with a matching coupling.
2. General purpose 1/4" female thread outlet, 1/4" male thread inlet. Available both with heat protection sleeve, or zinc-plated steel. The general purpose lance needs a connection nipple 1/4" female to 1/2" male to be fit on the gun. Please see the complete washgun and components codes below.

UMV SERIES HOT WATER SPRAY GUN

Functional spray guns match front shut-off extensions for foam, hot water and general use

Code	Inlet diameter	Feature
UMV 2210 xx	1/2"	Standard, adjustable jet
UMV 2211 xx	1/2"	With 1/2" Female quick thread, without lance
UMV 220A xx	1/2"	With foam lance
UMV 220B xx	1/2"	With 1/4" BSP Female outlet, bare lance
UMV 220C xx	1/2"	With 1/4" BSP Female outlet, heat protected lance

*Please complete product codes, ending with (**xx**), filling in the code of required material eg **T2**, chrome plated brass, or **B3** for AISI Stainless steel 316.*

*Please complete product codes, ending with (**xx**), filling in the code of required material eg **T2**, chrome plated brass, or **B3** for AISI Stainless steel 316.*

SINGLE COMPONENTS

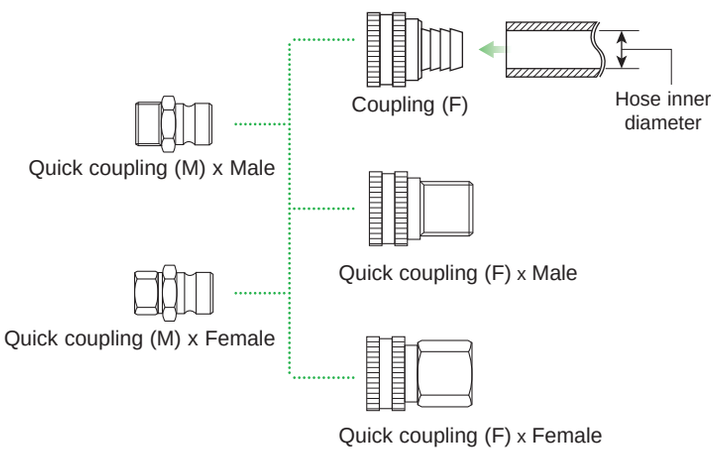
Code	Components
XUM V001 xx	Foam lance
XUM V002 xx	Quick-connect coupling for foam lance, 1/2" M
XUM V003 xx	Universal lance, 1/4" F out, heat protection
XUM V004 xx	Universal lance, 1/4" F out, zinc-plated steel
XUM V005 xx	Nipple, 1/4" F - 1/2" M, chrome plated brass

*Please complete product codes, ending with (**xx**), filling in the code of required material eg **T2**, chrome plated brass, or **B3** for AISI Stainless steel 316.*

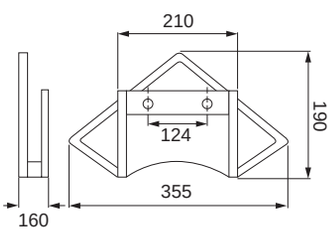
XUM (HOT WATER SPRAY GUN ACCESSORIES)

XUM VQM3 B3

XUM VQF6 B3



XUM US10 B2



HOT WATER SPRAY GUN ACCESSORIES

FLEXIBLE HOSE

This hose has been selected to be used with all models of UMV hot water spray-gun as it's made in top quality EPDM to outwear oil, high temperatures, high pressures and assure a long service life. Inlet and outlet ends are provided with female quick couplings for easy assembly and safety.

- Max working temperature **LT** 160°C
- Max working pressure **LP** 8 bar
- Materials Hose **E0** EPDM
  Couplings **B3** AISI 316 Stainless steel

Code	**Size** (inch)	**Hose length** (m)
XUM VT25 E0	1/2"	25
XUM VT20 E0	3/4"	20

QUICK COUPLINGS

XUM quick couplings are hot water spray gun accessories. It is convenient to assemble nozzle and spray gun. Please refer to below table for model no.

- Material **B3** AISI 316 Stainless steel

Code	**Quick couping** tipo	**Thread** inch	**Diameter** mm
XUM VQF1 B3	Female	1/2" M	
XUM VQF2 B3	Female	1/2" F	
XUM VQF3 B3	Female	3/4" M	
XUM VQF4 B3	Female	3/4" F	
XUM VQF5 B3*	Female		13
XUM VQF6 B3*	Female		19
XUM VQM1 B3	Male	1/2" M	
XUM VQM2 B3	Male	1/2" F	
XUM VQM3 B3	Male	3/4" M	
XUM VQM4 B3	Male	3/4" F	

* These couplings have a hose shank with the shown dia size.

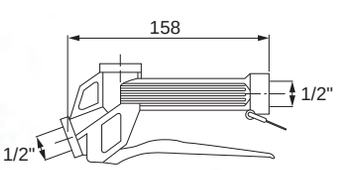
HOSE STAND

XUM quick couplings are hot water spray gun accessories. It is convenient to assemble nozzle and spray gun. Please refer to below table for model no.

- Material **B2** AISI 304 Stainless steel

UMS (PORTABLE WATER GUN)

with flat fan nozzle



with lance

with **UEA 0525 E31** air nozzle

PORTABLE WATER SPRAY GUN

UMS portable water spray-guns are widely used in industry. They have a lock ring to fix the handle while operating for a comfortable long use. The gun has a 1/2" female thread for nozzles assembly. The most common applications of this spray-gun are:
(1) Blowing off of water and surface dust with a UEA 0525 E31 air nozzles
(2) Parts and environment cleaning with suitable flat fan nozzles
(3) Liquid filling or packing with proper complementary accessories

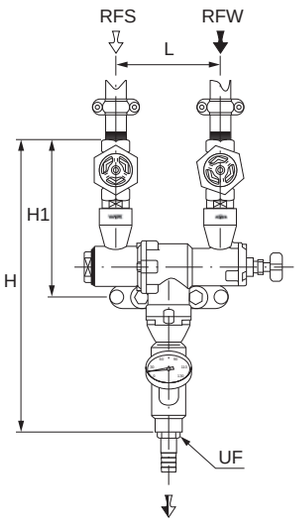
- Typical applications Product cleaning
  Liquid addition
  Air spray gun
- Inlet / Outlet thread size 1/2" BSP
- Max working temperature **LT** 100°C
- Max working pressure **LP** 50 bar
- Max capacity **LQ** 70 l/min
- Weight **W** 0.17 / 0.25 kg
- Materials Inner parts **B1** AISI 303 Stainless steel
  Inside seal **E7** Viton
  Outside shell **E3** Acetalic resin

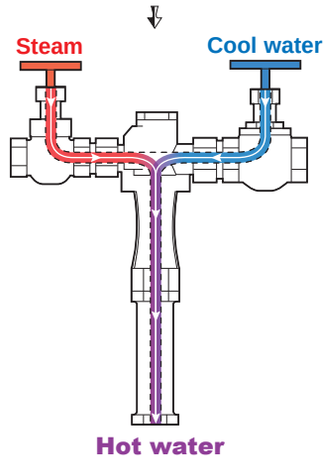
STEAM HEATERS

UPL steam operated heaters provide a simple, economic and noiseless solution to produce hot water in production plants. Simply connect the mixer inlet to the cold water and steam lines to have a ready supply of hot sanitary water for your cleaning operations. This heating process is extremely efficient, cost-saving and needs no stock as it provides the volume of hot water your need. Two inlet valves allow to adjust the temperature which can be read on the thermometer placed in the mixer front.

- Thread size 3/4", 1¼"
- Thread specification BSP, NPT
- Max operating temperature **LT** 90°C
- Max steam pressure **LP** 10 bar
- Materials **B2** AISI 304 Stainless steel

- Typical applications food, chemical and paper industry





Code	RFW inch	RFS inch	UF inch	H mm	H1 mm	L mm	W kg
UPL 0034 xx	3/4"	3/4"	3/4"	356	183	136	4.7
UPL 0114 xx	1¼"	1¼"	1¼"	530	275	196	15.7

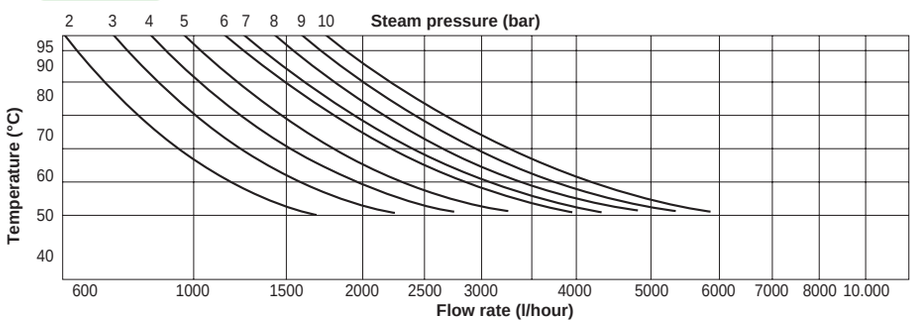
- **Steam inlet**
  Globe valve PN25, with metal sealing seat.
  Max temperature 180°C
  Max working pressure 12 bar

- **Water inlet**
  Globe valve PN16, with metal sealing or PTFE seat.

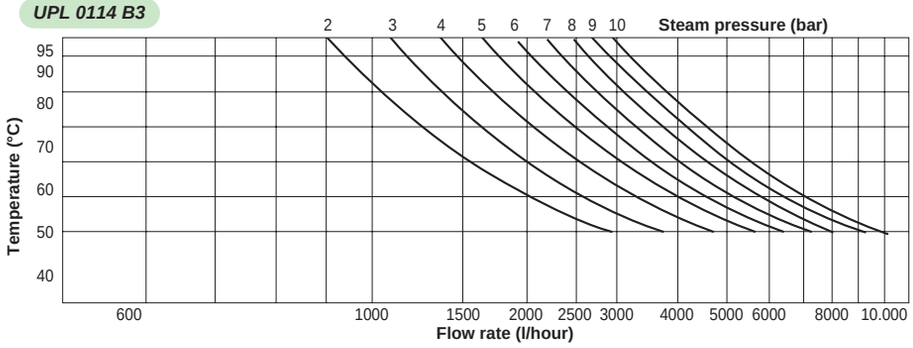
The tables below give capacity of hot water (l/hour) for inlet water temperature of 15°C, as a function of steam pressure.

PRESSURE / CAPACITY AT WATER TEMPERATURE = 15°C

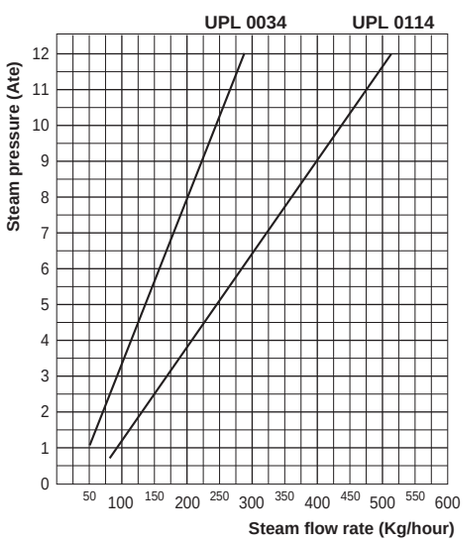
UPL 0034 B3



UPL 0114 B3



STEAM CONSUMPTION CHART



HOW TO MAKE UP THE **PRODUCT CODE**

EX.: UPL 0034 B2

UPL 0034 B2

- MATERIAL
  - **B2** - AISI 304 Stainless steel
- THREAD
- HEATER CODE

UMU A / B (MANUAL REWIND HOSE REELS)

UMU AD20 B2HSB
Spray gun is not included

UMU A/B - MANUAL REWIND HOSE REELS

UMU A/B models are basic manual rewind hose reels. The hose can be pull out to the desired length, oriented for release and safely returned into initial position after use. It can be assembled on a mobile cart or fixed to floor, wall or ceiling. Its construction is industrial grade, it's safe for operators, wear-resistant, and leak-free. They are specially designed for swivel nozzles and can be customized in length, materials, operating pressure and temperature to satisfy your requirements.

- Typical applications: food factories, washing lines, car wash
- Inlet thread size: 1/2", 1"
- Outlet thread size: 1/2", 1"
- Flexible hose size: 3/8", 1/2", 1"
- Max hose length: 70 M
- Max working pressure: **LP** 200 bar
- Material Body: **B2** AISI 304 Stainless steel

Code	LP bar	E inch	U inch	DI mm	MF inch	LF m	W kg	DE mm	H mm	S mm	Swivel code
UMU BF10 B2LSB	20	1"	1"	20	1"	10	12	500	460	270	on request
UMU BF20 B2LSB					1"	20	13	500	460	340	
UMU AC20 B2HSB	200	1/2"	1/2"	10	3/8"	20	9	390	330	300	
UMU AD20 B2HSB					1/2"	20					
UMU BC50 B2HSB					3/8"	50	12	500	460	270	
UMU BD35 B2HSB					1/2"	35					
UMU BC70 B2HSB					3/8"	70	13	500	460	340	
UMU BD50 B2HSB					1/2"	50					

UMU G / H (AUTO - REWIND HOSE REELS)

UMU HD20 B2HSB

UMU G/H - AUTO-REWIND HOSE REELS

UMU G/H models are auto-rewind hose reels with multi-position release, very useful and practical for frequent cleaning operations. The hose can be easily pulled out from the reel for the desired length and locked in place during use. When washing is completed, a short further pull activates a spring powered automatic rewind mechanism that returns the hose onto the reel. It's suitable for a variety of industrial environments, wear-resistant, robust in construction and designed to mount floor, wall, ceiling or cart.

- Typical applications: food factories, washing lines, car wash
- Inlet thread size: 1/2", 1"
- Outlet thread size: 1/2", 1"
- Flexible hose size: 3/8", 1/2", 3/4", 1"
- Max hose length: 20 M
- Max working pressure: **LP** 200 bar
- Material Body: **B2** AISI 304 Stainless steel

Code	LP bar	E inch	U inch	DI mm	MF inch	LF m	W kg	DE mm	H mm	S mm	Swivel code
UMU HE13 B2LSB	20	1"	1"	20	3/4"	13	18	530	550	300	XUM US20 B2
UMU HF08 B2LSB					1"	8	18				
UMU HE18 B2LSB	20	1"	1"	20	3/4"	18	24	530	550	480	XUM US22 B2
UMU HF15 B2LSB					1"	15	24				
UMU GD15 B2HSB	200	1/2"	1/2"	10	1/2"	15	13	550	430	230	XUM US15 B2
UMU GD20 B2HSB					1/2"	20	18	550	430	260	XUM US20 B2
UMU HC20 B2HSB					3/8"	20	18	530	550	300	
UMU HD20 B2HSB					1/2"	20	18	530	550	300	

(AUTO - REWIND ADJUSTABLE HOSE REELS) UMU L / K

UMU L/K - AUTO-REWIND ADJUSTABLE HOSE REELS

UMU L/K models are hose reels with spring powered automatic rewind and adjustable release, suitable for industrial environments requiring efficient cleaning power. They provide quick hose direction and retraction, are wear-resistant, leak-free and handy to use. The hose can be pulled to the desired length and locked in place during use. When operation is completed, a short further pull activates a spring powered automatic rewind mechanism that returns the hose onto the reel.
UMU L/K hose reels are specially designed for swivel nozzles and can be customized in length, materials, operating pressure and temperature to satisfy your requirements.

- Typical applications: food factories, washing lines, car wash
- Inlet thread size: 1/2", 1"
- Outlet thread size: 1/2", 1"
- Flexible hose size: 1/2", 3/4", 1"
- Max hose length: 20 M
- Max working pressure: **LP** 200 bar
- Material Body: **B2** AISI 304 Stainless steel

UMU KD20 B2HSB

Code	LP bar	E inch	U inch	DI mm	MF inch	LF m	W kg	DE mm	H mm	S mm	Swivel code
UMU LE13 B2LSB	20	1"	1"	20	3/4"	13	18	530	550	300	XUM US20 B2
UMU LF08 B2LSB					1"	8	18				
UMU LE18 B2LSB	20	1"	1"	20	3/4"	18	24	530	550	480	XUM US22 B2
UMU LF15 B2LSB					1"	15	24				
UMU KD15 B2HSB	200	1/2"	1/2"	10	1/2"	15	13	500	480	250	XUM US15 B2
UMU KD20 B2HSB						20	18	500	480	280	XUM US20 B2

(LARGE CAPACITY AUTO - REWIND HOSE REELS) UMU J / I

UMU J/I - LARGE CAPACITY AUTO-REWIND HOSE REELS

UMU J/I large capacity auto-rewind hose reels are recommended for working environments requiring a large capacity. UMU J/I reels have been designed to hold flexible and long hoses up to 40 meters (depending on hose diameter), and have a double retraction spring that ensure a quick and reliable hose auto-rewinding.
They are robust, wear-resistant, leak-free, powerful and adjustable. Ideal to clean long tunnels or machines from a single water feed point. They can be customized in length, materials, operating pressure and temperature to satisfy your requirements.

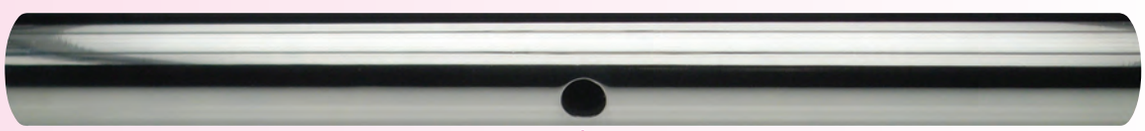
- Typical applications: food factories, washing lines, car wash
- Inlet thread size: 1/2", 1"
- Outlet thread size: 1/2", 1"
- Flexible hose size: 3/8", 1/2", 3/4", 1"
- Max hose length: 40 M
- Max working pressure: **LP** 200 bar
- Material Body: **B2** AISI 304 Stainless steel

UMU ID40 B2HSB
Spray gun is not included.

Code	LP bar	E inch	U inch	DI mm	MF inch	LF m	W kg	DE mm	H mm	S mm	Swivel code
UMU JE30 B2LSB	20	1"	1"	20	3/4"	30	40	530	550	520	Please contact our sales
UMU JF25 B2LSB				20	1"	25					
UMU ID25 B2HSB	200	1/2"	1/2"	10	1/2"	25	26	530	550	370	
UMU IC40 B2HSB				10	3/8"	40	36				
UMU ID40 B2HSB				10	1/2"	40	36	530	550	420	

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 and 3C 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. PNR clip-on nozzles fully comply with below specifications.



P.104

ZPF
Swivel nozzle clamp

P.104

ZPQ
Cam & lever clamp

P.105

ZPL
Pipe holder

P.105

ZPN
Spring pipe clamp

P.105

ZLF
Threaded nipple

P.106

ZBA Threaded sphere

P.106

ZBA Quick-fit sphere

P.107

HG Flat fan nozzle

P.107

RG Hollow cone nozzle

HGQ
Flat fan, S.S. insert

P.54

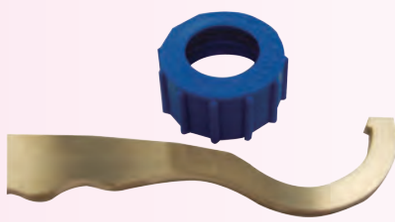
Threaded nozzle

P.108

KS
Quick-fit spoon nozzle

P.108

HT
Quick-fit nozzle



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VAB Plastic locknuts & Tool

(SWIVEL NOZZLE CLAMPS) ZPF

SWIVEL NOZZLE CLAMPS

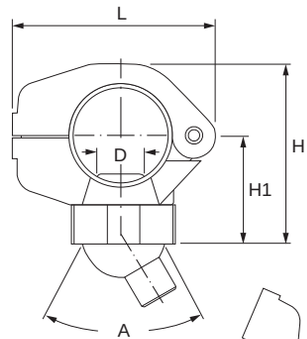
ZPF swivel clamps are specially designed for HGQ, RGN and ZBA series. To install them on pipes all you need is drill a hole, insert the nozzle clamp inside and fasten it with a simple screwdriver. The nozzle clamp body is in PP chemically bonded fibreglass whereas accessorial bolts and screws are made 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.

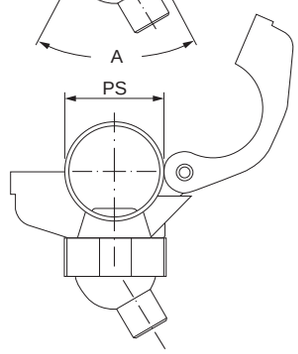
- Typical application: Cleaning equipment used in pre-treatment for coating process
- Max working temperature: **LT** 80°C
- Max working pressure: **LP** 5 bar
- Materials: Body **D6** PP, chemically bonded fiberglass; Pin & bolt **B3** AISI 316 Stainless steel; O-ring **E8** NBR

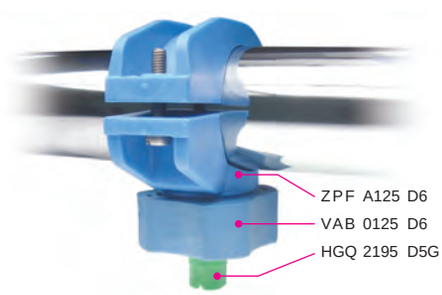
Code	PS inch	PD mm	D mm	H mm	H1 mm	L mm	A deg	W g
ZPF A125 D6	1¼"	41/43	20.0	83	54	84	40°	85
ZPF B125 D6			17.0					
ZPF C125 D6			14.0					
ZPF A150 D6	1½"	46/49	20.0	90	57	90	40°	88
ZPF B150 D6			17.0					
ZPF C150 D6			14.0					

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

ZPF A125 D6
- ZPF — SWIVEL NOZZLE PIPE CLAMPS
- A125 — CODE
- D6 — MATERIAL: **D6** - PP, chemically bonded fiberglass







CLIP-ON NOZZLES

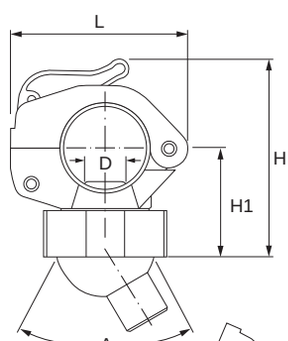
(SWIVEL NOZZLE CAM AND LEVER CLAMPS) ZPQ

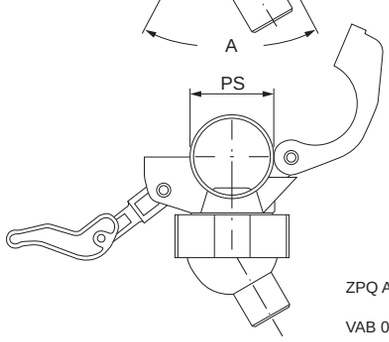
SWIVEL NOZZLE CAM AND LEVER CLAMPS

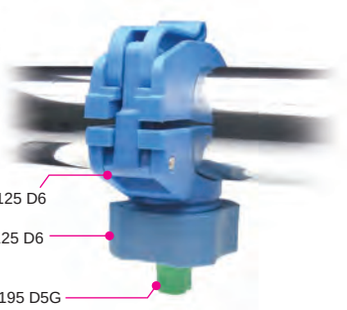
ZPQ cam and lever clamps are specially designed for HGQ, RGN and ZBA ball nozzles. Only three steps to install them on a pipe: drill a hole, wrap the cam around the pipe and pull the lever down to block it. No need of tools. The body is in PP chemically bonded fibreglass whereas accessorial bolts and 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** 80°C
- Max working pressure: **LP** 5 bar
- Materials: Body **D6** PP, chemically bonded fiberglass; Pin & bolt **B3** AISI 316 Stainless steel; O-ring **E8** NBR; Seal **D22** Soft polypropylene

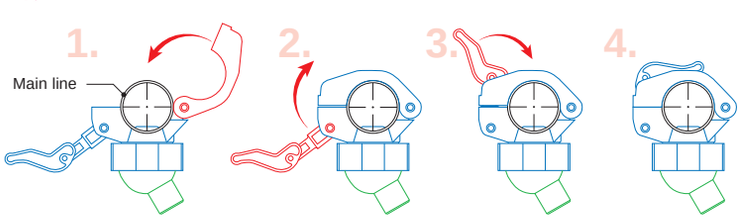
Code	PS inch	PD mm	D mm	H mm	H1 mm	L mm	A deg	W g
ZPQ A125 D6	1¼"	42/43	20.0	93	41	84	40°	87
ZPQ B125 D6			17.0					
ZPQ A150 D6	1½"	48/49	20.0	96	44	95	40°	97
ZPQ B150 D6			17.0					





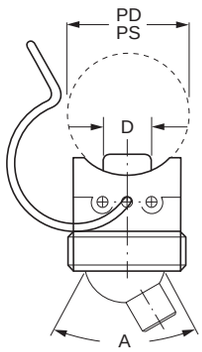


HOW TO INSTALL THE SWIVEL NOZZLE CAM & LEVER CLAMPS

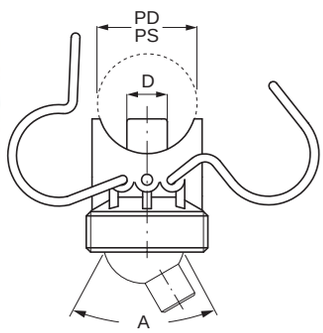


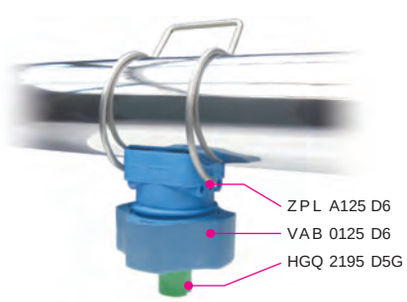
ZPL / ZPN (SWIVEL NOZZLE SPRING PIPE CLAMPS)

ZPL Single spring



ZPN Double spring
Better stability





SWIVEL NOZZLE SPRING PIPE CLAMPS

ZPL/ZPN pipe clamps are specially designed for swivel ball nozzles. Drill a hole and fix the clamp with one screw. Body is made of fibreglass reinforced PP, screw and spring SUS316. ZPL/ZPN swivel nozzles work under high temperature and high degree of intensity. ZPL/ZPN swivel nozzle pipe clamps are widely used in surface pre-treatment.

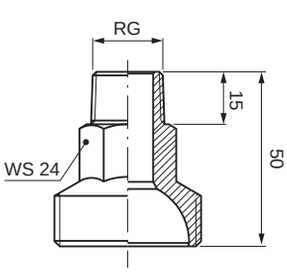
- Typical application: Cleaning equipment used in pre-treatment for coating process
- Max working temperature: **LT** 80°C
- Max working pressure: ZPL Single spring 2 bar; ZPN Double spring 3 bar
- Materials: Body **D6** PP, chemically bonded fiberglass; Spring **N1** AISI 302 Stainless steel, heat treated; O-ring **E8** NBR

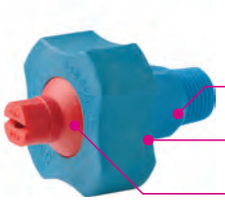
Code		PS	PD	D	A	W
Single spring	Double spring	inch	mm	mm	deg	g
ZPL C100 D6	ZPN C100 D6	1"	32/34	14.0	40°	
ZPL A125 D6	ZPN A125 D6	1 1/4"	41/43	20.0	40°	
ZPL B125 D6	ZPN B125 D6			17.0		
ZPL C125 D6	ZPN C125 D6			14.0		46/65
ZPL A150 D6	ZPN A150 D6	1 1/2"	46/49	20.0	40°	
ZPL B150 D6	ZPN B150 D6			17.0		
ZPL C150 D6	ZPN C150 D6			14.0		

HOW TO MAKE UP THE PRODUCT CODE EX.: ZPL C100 D6

ZPL C100 D6
- D6 - MATERIAL: PP, chemically bonded fiberglass
- C100 - CODE
- ZPL - CLAMP TYPE: Single spring; ZPN: Double spring

ZLF (SWIVEL NOZZLE THREADED NIPPLE)



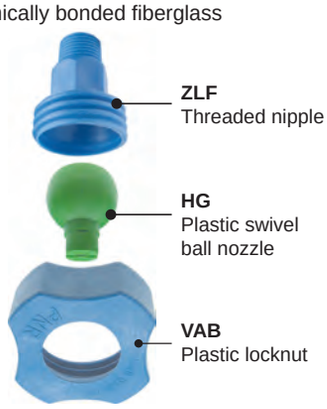


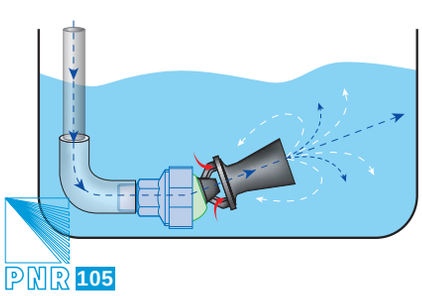
SWIVEL NOZZLE THREADED NIPPLE

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
- Max working temperature: **LT** 80°C
- Max working pressure: **LP** 4 bar
- Material: **D6** PP, chemically bonded fiberglass

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"	





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

HOW TO MAKE UP THE PRODUCT CODE EX.: ZLF A038 D6

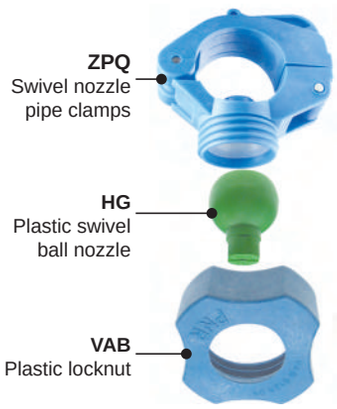
ZLF A038 D6
- D6 - MATERIAL: PP, chemically bonded fiberglass
- A038 - CODE
- ZLF - CLAMP TYPE

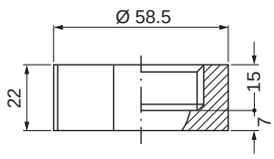
(PLASTIC LOCKNUTS) VAB

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 fibreglass to keep stability at high temperatures and offer the best resistance to chemicals.

- Material
  D6 PP, chemically bonded fiberglass
- Max working temperature
  LT 80°C





VAB 0125 D6

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

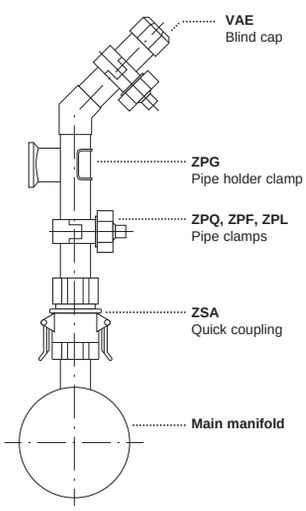
VAB 0125 D6

- **VAB** — LOCKNUT TYPE
- **0125** — CODE
- **D6** — MATERIAL • **D6**- PP, chemically bonded fiberglass

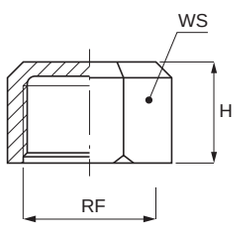
(PLASTIC END CAPS) VAE

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 fiberglass
- Max working temperature
  LT 80°C



Code	RF inch	H mm	WS mm
VAE 1000 D6	1"	25	42
VAE 1250 D6	1 1/4"	32	52
VAE 1500 D6	1 1/2"	32	60

HOW TO MAKE UP THE PRODUCT CODE EX.: VAE 1000 D6

VAE 1000 D6

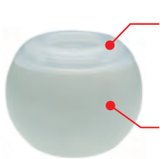
- **VAE** — CAP TYPE
- **1000** — CODE
- **D6** — MATERIAL • **D6**- PP, chemically bonded fiberglass

(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.

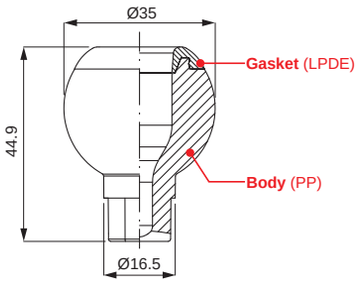
Code		RF BSPP inch	RF NPT inch
One piece	Two pieces		
ZBA A025 D5	ZBA GBN1 D5G	1/4" F	
ZBA B025 D5	ZBA NBN1 D5G		1/4" F
ZBA A038 D5	ZBA GCN1 D5G	3/8" F	
ZBA B038 D5	ZBA NCN1 D5G		3/8" F
ZBA A050 D5	ZBA GDN1 D5G	1/2" F	
ZBA 0000 D5	ZBA 00N0 D5Y	Blind	
ZBA QQN1 D5	ZBA QQN1 D6G	Quick connection	

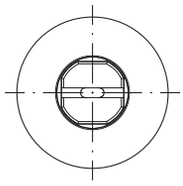


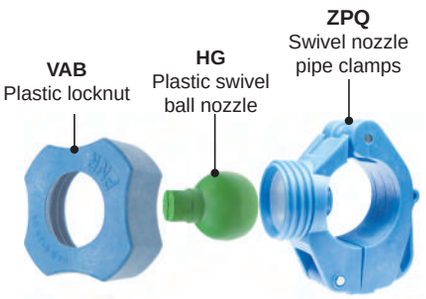
VDX 3015 D73H
Two pieces

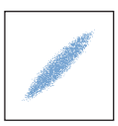
One piece

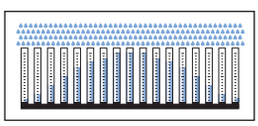
HGQ 2195 D5G
Flat fan nozzle



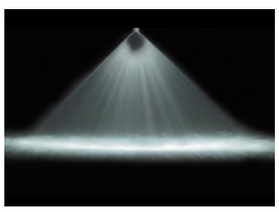








Spray section *Convex distribution*



PLASTIC SWIVEL BALL NOZZLES

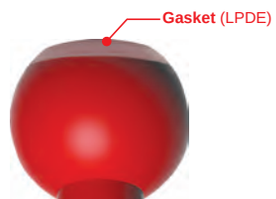
HGQ and RGN plastic swivel ball nozzles are designed for diversified applications. They allow an easy adjustment of their spray jet direction and offer a quick-fit connection.

- Nozzle type — Flat fan nozzles; Hollow cone nozzles
- Typical application — Cleaning equipment used in pre-treatment for coating process
- Material — Body **D5** Powder-filled polypropylene

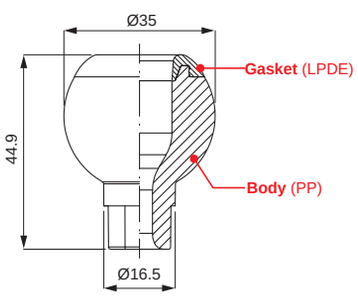
FLAT FAN NOZZLES

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)					Color	W g
60°	HGQ 1390 D5G	1.7	2.0	2.4	2.9	3.3	Black	16
	HGQ 1770 D5G	3.2	3.8	4.5	5.5	6.4	Purple	
	HGQ 1980 D5G	4.0	4.7	5.6	6.9	8.0	Brown	
	HGQ 2117 D5G	4.6	5.5	6.5	8.0	9.3	Yellow	
	HGQ 2135 D5G	5.5	6.5	7.8	9.5	11.0	Gray	
	HGQ 2155 D5G	6.2	7.4	8.8	10.8	12.5	Red	
	HGQ 2195 D5G	7.8	9.2	11.0	13.8	15.6	Green	
	HGQ 2230 D5G	9.5	11.3	13.5	16.3	19.1	Blue	
	HGQ 2270 D5G	10.9	12.8	15.4	18.8	21.7	Sky blue	
	HGQ 2337 D5G	13.8	16.4	19.5	24.0	27.7	White	
	HGQ 2410 D5G	16.7	19.8	23.6	29.0	33.5	Pink	
	Pressure (bar)	***0,5***	***0,7***	***1,0***	***1,5***	***2,0***		



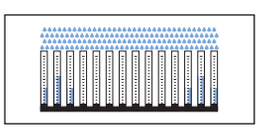
RGN
Hollow cone nozzle



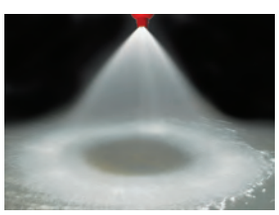
HOLLOW CONE NOZZLES

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)					Color	W g
50°	RGN 2175 D5G	7.1	8.5	10.1	12.4	14.3	Red	25
	RGN 2215 D5G	8.8	10.4	12.4	15.2	17.6	Blue	
	RGN 2390 D5G	15.9	18.8	22.5	27.6	31.8	Black	
	Pressure (bar)	***0,5***	***0,7***	***1,0***	***1,5***	***2,0***		



Spray section *Concave distribution*



HOW TO MAKE UP THE NOZZLE CODE EX.: HGQ 1390 D5G

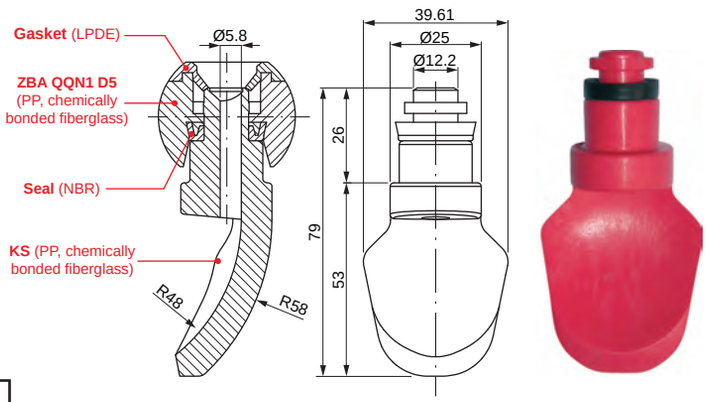
HGQ 1390 D5G

- MATERIAL: • **D5** - Powder-filled polypropylene
- CAPACITY
- NOZZLE TYPE: • **HGQ** - Flat fan nozzles (60°) • **RGN** - Hollow cone nozzles (50°)

FLAT FAN QUICK-FIT SPOON NOZZLES

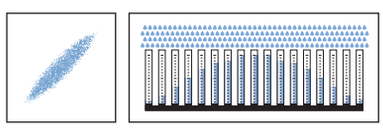
KS flat fan quick-fit spoon nozzles produce a flat spray pattern with a 60° deflection spray angle and offer the highest possible impact for a given feed pressure, up to 60° compared to standard turbulence flat fan nozzles. The innovative design ensures the ideal efficiency for deep cleaning and their 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 fibreglass to keep stability at high temperatures and be chemicals-resistant. These nozzles are widely used in surface pre-treatments.

- **Material** PP, chemically bonded fiberglass
- **Typical applications** Cleaning equipment used in pre-treatment for coating process



◁	Code	Capacity at different pressure values (l/min) (bar)					Color	W g
60°	KSQ 2155 D6QQ	6.3	7.5	8.9	11.0	12.7	Red	23
	KSQ 2195 D6QQ	8.0	9.4	11.3	13.8	15.9	Green	
	KSQ 2230 D6QQ	9.4	11.1	13.3	16.3	18.8	Blue	
	KSQ 2270 D6QQ	11.0	13.0	15.6	19.1	22.0	Sky blue	
	KSQ 2337 D6QQ	13.8	16.3	19.5	23.8	27.5	White	
	KSQ 2390 D6QQ	15.9	18.8	22.5	27.6	31.8	Orange	
	KSQ 2410 D6QQ	16.7	19.8	23.7	29.0	33.5	Pink	
	KSQ 2433 D6QQ	17.7	20.9	25.0	30.6	35.4	Brown	

Perssure (bar)	0,5	0,7	1,0	1,5	2,0



Spray section *Convex distribution*

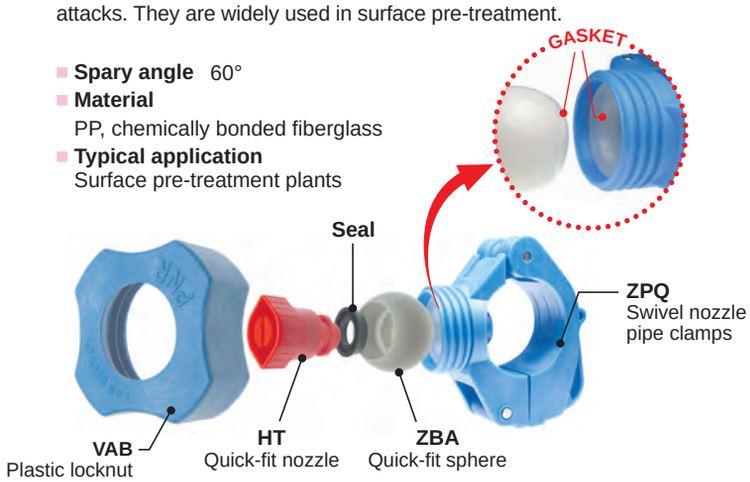
CLIP-ON NOZZLES

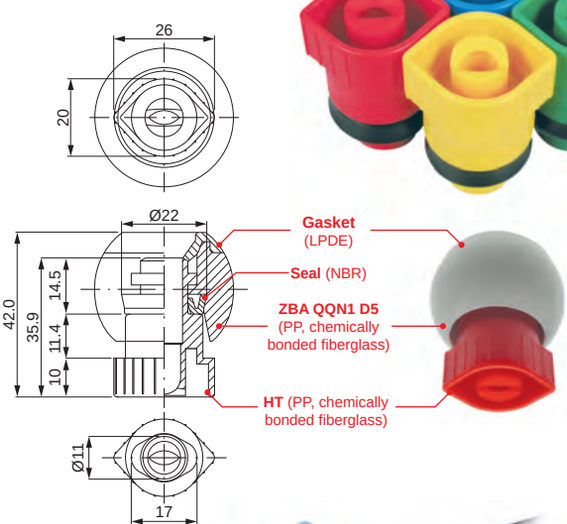
(FLAT FAN QUICK-FIT NOZZLES) HT

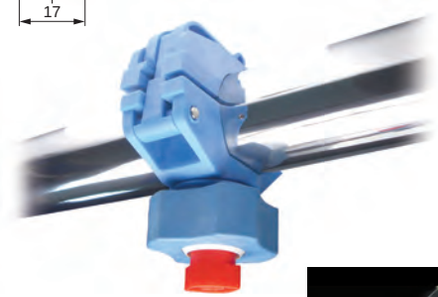
FLAT FAN QUICK-FIT NOZZLES

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.

- **Spary angle** 60°
- **Material**
  PP, chemically bonded fiberglass
- **Typical application**
  Surface pre-treatment plants

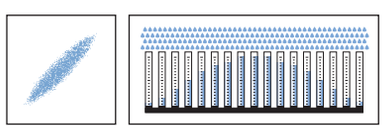






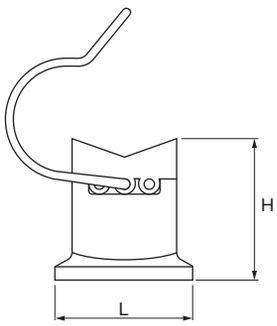
◁	Code	Capacity at different pressure values (l/min) (bar)					Color
60°	HTQ 1390 D6QQ	1.6	1.9	2.3	2.8	3.2	Black
	HTQ 1590 D6QQ	2.4	2.8	3.4	4.2	4.8	Purple
	HTQ 1780 D6QQ	3.2	3.8	4.5	5.5	6.4	Lilac
	HTQ 2117 D6QQ	4.8	5.7	6.8	8.3	9.6	Yellow
	HTQ 2153 D6QQ	6.2	7.4	8.8	10.8	12.5	Red
	HTQ 2195 D6QQ	8.0	9.4	11.3	13.8	15.9	Green
	HTQ 2230 D6QQ	9.4	11.1	13.3	16.3	18.8	Blue
	HTQ 2274 D6QQ	11.2	13.2	15.8	19.4	22.4	Sky blue

Perssure (bar)	0,5	0,7	1,0	1,5	2,0

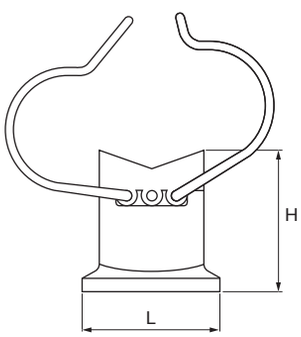


Spray section *Convex distribution*

Single spring



Double spring



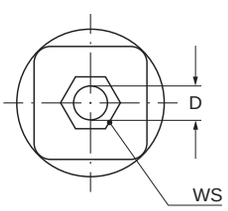
PIPE HOLDERS

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.

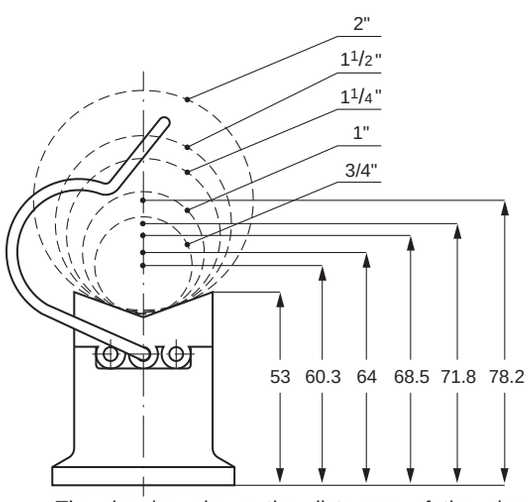
- Typical application: Cleaning equipment used in pre-treatment for coating process
- Pipe size: **PS** 3/4", 1", 1¼", 1½", 2"
- Materials — Body: **D6** PP, chemically bonded fiberglass
- Materials — Springs: **N1** AISI 302 Stainless steel, heat treated

Code		PS	D	H	L	WS	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**	1¼"					90
-	**ZPG 2150 D6**	1½"					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.

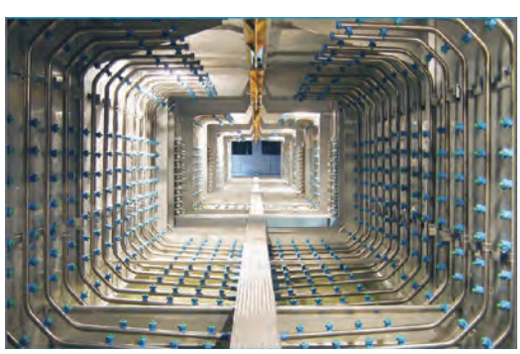


The drawing shows the distances of the pipe central axis from the wall for different pipe sizes assembled onto the pipe holder.

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

ZPG 1075 D6

- **MATERIAL**
  - **D6** - PP, chemically bonded fiberglass
- **PIPE CODE**
  - **075** - 3/4"
  - **100** - 1"
  - **125** - 1¼"
  - **150** - 1½"
  - **200** - 2"
- **CLAMP CODE**
  - **1** - Single spring
  - **2** - Double spring
- **PIPE HOLDERS**



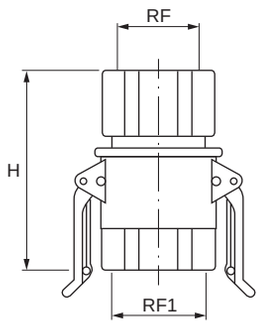
The above photo shows a European top coating plant using our products

QUICK COUPLING JOINTS

ZSA quick coupling joints are a very popular solution for industrial facilities requiring ease of operation.

- Thread size: 3/4", 1", 1¼", 1½"
- Thread specification: BSP, NPT
- Typical applications: Cleaning equipment used in pre-treatment for coating process
  Addition and release of liquids in chemical tankers
- Materials

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, Polyvinylidenefluoride
O-ring	**E0**	EPDM
	E7	Viton
	E8	NBR



Code	RF1 inch	RF inch	H mm	LP bar	W kg
ZSA 0075 B3x	3/4"	3/4"	85	15	*
ZSA 0100 B3x	1"	1"	73	15	
ZSA 0100 D6x			73	7	
ZSA 0125 B3x	1¼"	1¼"	110	15	
ZSA 0125 D6x				7	
ZSA 0150 D6x	1½"	1¼"	110	6	
ZSA 0151 B3x	1½"	1½"	110	15	
ZSA 0151 D6x				6	

** Weight values for different materials are given on request.*

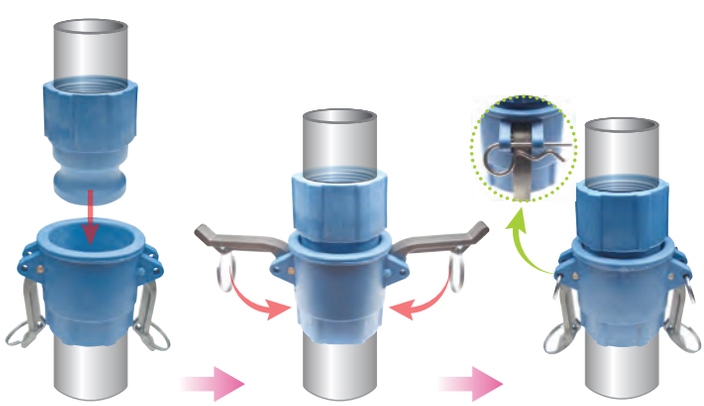
HOW TO MAKE UP THE PRODUCT CODE EX.: ZSA 0075 B3B

ZSA 0075 B3 x

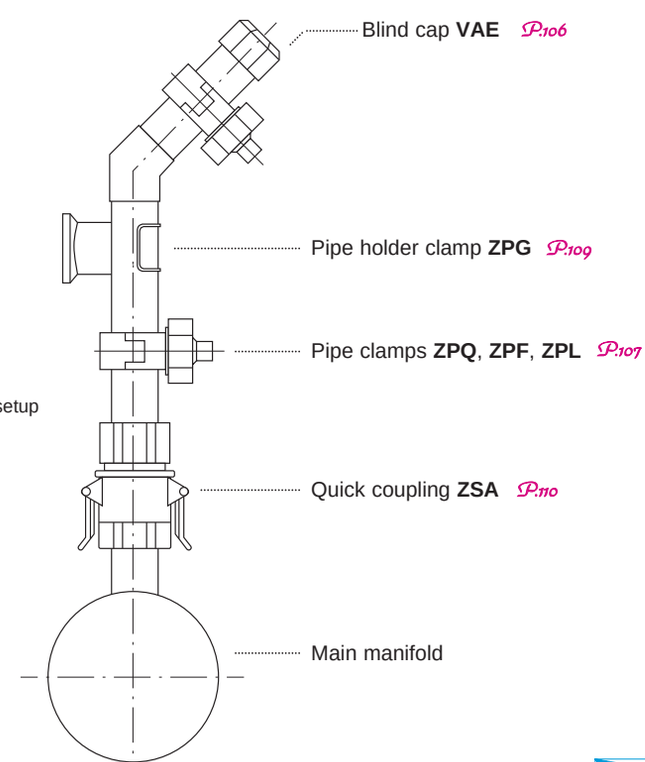
- QUICK COUPLING JOINTS: ZSA
- CODE: 0075
- MATERIAL: B3
  - **B3** - AISI 316 Stainless steel
  - **D6** - PP, chemically bonded fiberglass
- X

X	Orientation	Lever material	O-ring	Rings
B	Fixed	AISI 316, sint	EPDM	AISI 316
C	Fixed	PVDF	EPDM	AISI 316
D	Fixed	PVDF	VITON	AISI 316
H	Fixed	AISI 316, sint	VITON	AISI 316
S	Free	AISI 316, sint	EPDM	AISI 316
T	Free	PVDF	EPDM	AISI 316
U	Free	PVDF	VITON	AISI 316
Y	Free	AISI 316, sint	VITON	AISI 316

QUICK COUPLING JOINTS - INSTALLMENT

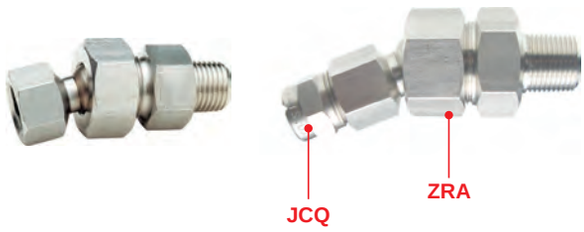


A. Join two parts of quick coupling together **B.** Put levers down and fasten **C.** Fix bolt and complete setup

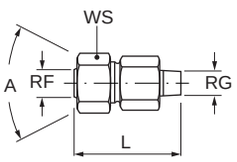


QUICK FITTING RISERS AND HEADER MANIFOLDS

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 1212 B1

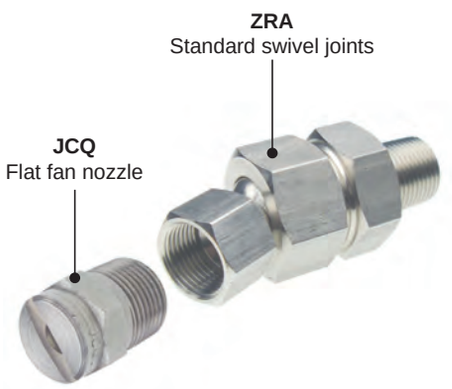


STANDARD SWIVEL JOINTS

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
- Materials: **B1** AISI 303 Stainless steel; **B31** AISI 316L Stainless steel; **T1** Brass

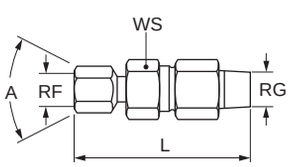
Code	RG poll	RF poll	L mm	A deg	WS mm	W g
ZRA 1212 xx YY	1/8"	1/8"	38	50°	22	57
ZRA 2525 xx YY	1/4"	1/4"	57			75
ZRA 2626 xx YY	1/4"	1/4"	67	60°	27	147
ZRA 3826 xx YY	3/8"	1/4"	67			150
ZRA 3838 xx YY	3/8"	3/8"	70			155
ZRA 5050 xx YY	1/2"	1/2"	74	40°	27	186
ZRA 7575 xx YY	3/4"	3/4"	92		40	468



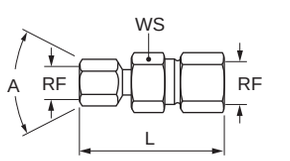
HOW TO MAKE UP THE PRODUCT CODE EX.: ZRA 1212 B1SB

ZRA 12 12 xx YY

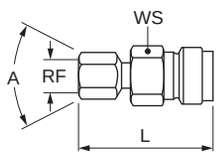
- CONNECTION: **SB** - BSP; **SN** - NPT
- MATERIAL: **B1** - AISI 303 Stainless steel; **B31** - AISI 316L Stainless steel; **T1** - Brass
- OUTLET THREAD SIZE: **12** - 1/8"; **25** - 1/4"; **38** - 3/8"; **50** - 1/2"; **75** - 3/4"
- INLET THREAD SIZE: **12** - 1/8"; **25** - 1/4"; **38** - 3/8"; **50** - 1/2"; **75** - 3/4"



ZRA



ZRB



ZRC

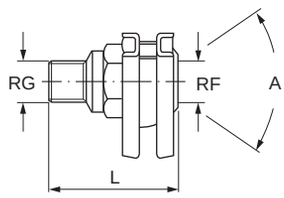
Nozzle type	Inlet	Outlet
ZRA	Male	Female
ZRB	Female	Female
ZRC	Welded	Female

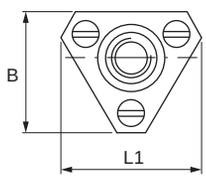
TRIANGLE FLANGED SWIVEL JOINTS

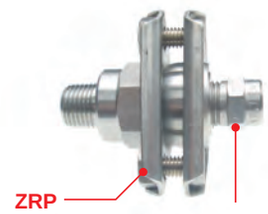
ZRP triangular flanged swivel joints have a robust metallic structure, are easy to fit and adjust and are widely used in manufacturing plants requiring product diversification.

- Typical applications: Cleaning equipment used in pre-treatment for coating process. Continuous casting cooling.
- 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

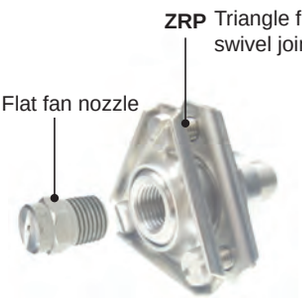






ZRP Triangle flanged swivel joints

JBC Flat fan nozzle



HOW TO MAKE UP THE PRODUCT CODE EX.: ZRP 1212 B1

ZRP 1212 xx

- JOINT TYPE
- OUTLET THREAD SIZE: ● **12** - 1/8" ● **25** - 1/4" ● **38** - 3/8"
- LNLET THREAD SIZE: ● **12** - 1/8" ● **25** - 1/4" ● **38** - 3/8"
- MATERIAL: ● **B1** - AISI 303 Stainless steel ● **T1** - Brass ● **B3** - AISI 316 Stainless steel (optional)

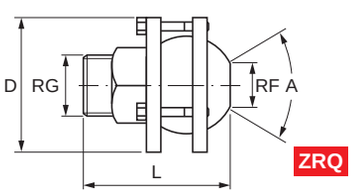
SWIVEL JOINTS

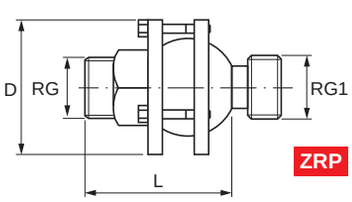
LARGE CAPACITY SWIVEL JOINTS

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.
- Inlet / Outlet thread size: 1", 1¼", 1½", 2", 2½"
- Max working pressure: **LP** 9 bar
- Materials: **B1** AISI 303 Stainless steel; **B3** AISI 316 Stainless steel; **T1** Brass

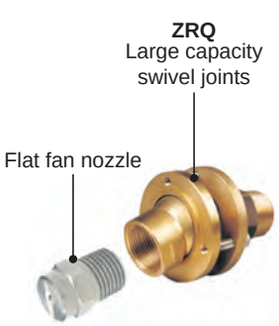
Code	RG inch	RG1 inch	RF inch	L mm	D mm	A deg	W kg
ZRQ 8080 xx	1"	-	1"	89	92	40°	1.8
ZRQ 8282 xx	1¼"	-	1¼"	130			2.1
ZRQ 8482 xx	1½"	-	1¼"	133			2.4
ZRR 8282 xx	1¼"	1¼"	-	130	92	40°	2.2
ZRR 8284 xx	1½"	1¼"	-	130			2.2
ZRR 8484 xx	1½"	1½"	-	130			2.4
ZRR 8686 xx	2"	2½"	-	203	158	40°	8.0
ZRR 8888 xx	2½"	2½"	-	229			8.8





ZRQ Large capacity swivel joints

Flat fan nozzle



HOW TO MAKE UP THE PRODUCT CODE EX.: ZRQ 8080 B1

ZRQ 8080 xx

- JOINT TYPE: ● **ZRQ** - Female ● **ZRR** - Male
- OUTLET THREAD SIZE: ● **80** - 1" ● **82** - 1¼" ● **84** - 1½" ● **86** - 2" ● **88** - 2½"
- LNLET THREAD SIZE: ● **80** - 1" ● **82** - 1¼" ● **84** - 1½" ● **86** - 2" ● **88** - 2½"
- MATERIAL: ● **B1** - AISI 303 Stainless steel ● **B3** - AISI 316 Stainless steel ● **T1** - Brass