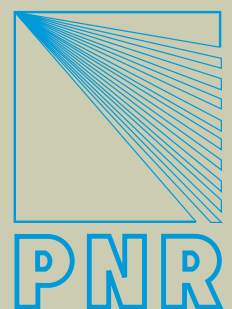




CTG PM06 BR

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# PAPERMILL NOZZLES



## INTRODUCTION

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### TECHNICAL PUBLICATIONS

PNR manufactures a complete range of spray nozzles for industrial applications, as well as products and systems designed for specific industries.

Information about our Company and our product range is available through the following publications

PRODUCT RANGE	CTG TV 10 BR
GENERAL PURPOSE SPRAY NOZZLES	CTG UG 15 BR
AIR ASSISTED ATOMIZERS	CTG AZ 15 BR
COMPLEMENTARY PRODUCTS AND ASSEMBLY FITTINGS	CTG AC 15 BR
INDUSTRIAL TANK WASHING SYSTEMS	CTG LS 15 BR
PAPERMILL PRODUCTS	CTG PM06 BR
EVAPORATIVE COOLING LANCES	CTG LN 15 BR
SPRAYDRY NOZZLES	CTG SP 10 BR
STEELWORK NOZZLES	CTG SW 11 BR
FIRE FIGHTING PRODUCTS	CTG FF 15 BR

As a result of continuous product improvement, our literature is regularly updated, and mailed to Customers whose name and address are registered into our Catalogue Mailing List.

We shall gladly register your name, if you mail or fax to the nearest PNR office or Distributor the form on page 17, duly filled with the required information.

### NOTES

Our products and their performance are continuously reconsidered and modified to keep up with the latest state of technology. We regret not to being able to give our Customers previous advice about these modifications; for this reason the data and product specifications given in this catalogue are always to be understood as being indicative, and do not firmly engage our Company.

In case your application should imperatively require that one or more characteristics of one of our products, as given by this Catalogue, is strictly adhered to, we ask you to obtain a written confirmation about your requirements before sending your order. All information contained in this catalogue, including product data, product codes, diagrams and photographs are the exclusive property of Flowtech Srl.

It is forbidden to reproduce any part of this catalogue without having obtained written permission from Flowtech Srl.

Dimensions in this catalogue are given in millimeters (mm).

All threads are manufactured according to the ISO 228 standards.

(European norms BS 2779 - DIN 259 - UNI 338).

Explanations about the abbreviations used in the catalogue are given at page 17.

All Trademarks are the property of their respective owners.

Please read our Warranty Conditions on page 17.

Water is used in the paper making process, nozzles directing the water are used in preparing pulp paste, side cutting, felt washing and many other areas.

Due to the many diverse paper making processes, PNR has developed highly specialized nozzles for each process.

PNR has put to work its long experience in the field of fluid dynamics to produce a range of professional papermill equipment and accessories, which has been proven through many years of successful applications, but is continuously updated to the most modern technical levels and to the specific needs of our Clients.

Our papermill product range includes a wide variety of high quality shower nozzles, feature-packed shower oscillator, and a variety of products for additional applications in the plant, including a range of state-of-the-art cooling lances and pressure nozzles for pollution control in pulp making plants.

#### PNR MATERIALS CODES

Many of the products shown in this Catalogue are available in different materials, and therefore their identification code is not complete, the two last digits in the code normally used to specify the material.

Replace the XX with one of the material codes listed below.

In such cases please complete the code for your product with the final digits showing the required material.

The coding for the most popular materials are listed in the following. The complete list for the PNR material codes can be obtained requiring our publication 3BZ A01.

A1	Mild steel	E2	PTFE (25% glassfibers)
A2	High speed steel	E3	Acetalic resin (POM)
A8	Zinc coated steel	E7	Viton
A9	Nickel coated steel	E8	Synthetic rubber (NBR)
B1	AISI 303 stainless steel	F31	Ruby insert, 303 body
B2	AISI 304 stainless steel	G1	Cast iron
B21	AISI 304 L Stainless steel	H1	Titanium
B3	AISI 316 Stainless steel	L1	Monel 400
B31	AISI 316 L Stainless steel	L2	Incolloy 825
B8	AISI 309 Stainless steel	L8	Hastelloy
C2	Aisi 416 Stainless steel, hardened	P6	Acr. but. styrene (ABS)
D1	Polyvinylchloride (PVC)	P8	EPDM 40 Shore
D2	Polypropylene (PP)	T1	Brass
D3	Polyamide (PA)	T2	Brass, chrome plated
D5	Talcum filled Polypropylene	T3	Copper
D6	Glassfibre reinforced PP	T5	Bronze
D7	High density polyethilene	T8	Brass, nickel plated
D8	Polyvinylidene fluoride (PVDF)	T81	Brass, electroless nickel plated
E0	EPDM	V1	Aluminum
E1	Polytetrafluorethylene (PTFE)	V7	Aluminum, electroless n. plated

# SHOWER PRODUCTS

Felt and fabric cleaning is one of the most common applications for shower headers, but many additional jobs can be performed.

Examples are: for cleaning suction and grooved rolls, for paper formation, for remoisturizing, for trimming paper web and for lubrication...

All these operations heavily influence the product quality ...which requires high quality and properly designed nozzles.



Page 3

## THREADED SHOWER NOZZLES

Needle jet nozzles, High impact straight jet nozzles, Short flat jets..all the industry standards are available in the high quality you require.



Page 5

## SELF CLEANING NOZZLES

Needle jet nozzles, High impact straight jet nozzles, Short flat jets..all the popular designs available in the high quality you require.



Page 6

## NOZZLES FOR SELF CLEANING SHOWERS

Our unique disc-type nozzles for internal brush showers are manufactured with a patented design orifice, offering longer life plus increased efficiency.



Page 7

## SHOWER OSCILLATING MOTOR

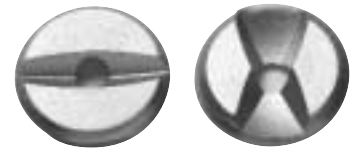
State of the art technology, full electronic control, low-voltage stepper motor, water-tight construction: all the best features a paper maker can think about are built into this oscillator.

## SHORT FLAT JET NOZZLES

## GC

For limited space applications the GC type nozzles offer flush mounting and excellent performance. Their special inside profile produces a very effective, sharp flat jet with a round orifice, minimizing clogging.

**Materials** B1 AISI 303 Stainless steel  
B31 AISI 316 Stainless steel (on request)



GC

	Code	Capacity at different pressure values								(lpm) (bar)
		0.7	1.5	2.0	3.0	4.0	6.0	7.0	10.0	
45°	GCM 1510 B1	2.90	4.20	5.10	5.90	6.60	7.20	7.80	9.30	
60°	GCQ 1210 B1	1.20	1.70	2.10	2.40	2.70	3.00	3.20	3.80	
	GCQ 1510 B1	2.90	4.20	5.10	5.90	6.60	7.20	7.80	9.30	
	GCQ 1950 B1	5.50	7.80	9.50	11.0	12.3	13.4	14.5	17.3	
65°	GCR 1750 B1	4.30	6.10	7.50	8.70	9.70	10.6	11.5	13.7	
	GCR 1950 B1	5.50	7.80	9.50	11.0	12.3	13.4	14.5	17.3	
80°	GCT 1510 B1	2.90	4.20	5.10	5.90	6.60	7.20	7.80	9.30	
	GCT 1950 B1	5.50	7.80	9.50	11.0	12.3	13.4	14.5	17.3	

GC nozzles are also available, on request, with no thread for weld assembly



## NEEDLE JET NOZZLES

## GD

A classic high impact needle jet nozzle, for cleaning and washing felts. High quality machining assures a perfect straight jet orifice, with smooth inside surface for superior solid stream performance. The nozzle design, with the orifice inlet in a higher position, minimizes the possibility of nozzle clogging. Different body lengths provide for increased clogging protection when larger pipes are used. Longer wear life can be obtained by means of a ruby orifice insert. See note on complete nozzle code for body length and connection thread.

**Materials** Body B31 AISI 316L Stainless steel  
Insert F31 Ruby insert, 316L body



GD

Code	DO	Capacity at different pressure values									(lpm) (bar)
		7.0	10	15	20	30	40	50	60	70	
GDA 0120 B31xy	0.35	0.16	0.19	0.24	0.27	0.34	0.39	0.43	0.48	0.51	
GDA 0420 B31xy	0.70	0.64	0.77	0.94	1.09	1.33	1.54	1.72	1.88	2.03	
GDA 0620 B31xy	0.85	0.95	1.13	1.38	1.60	1.96	2.26	2.53	2.77	2.99	
GDA 0890 B31xy	1.00	1.36	1.63	1.99	2.30	2.82	3.25	3.64	3.98	4.30	
GDA 1160 B31xy	1.40	2.53	3.03	3.71	4.28	5.24	6.05	6.77	7.41	8.01	
GDA 1270 B31xy	1.80	4.16	4.97	6.09	7.03	8.61	9.94	11.1	12.2	13.1	
GDA 1450 B31xy	2.40	6.80	8.13	9.93	11.5	14.1	16.3	18.2	19.9	21.5	
GDA 1730 B31xy	3.20	10.6	12.7	15.5	17.9	21.9	25.3	28.3	31.0	33.5	

## COMPLETE NOZZLE CODE

Complete the nozzle code with the following data

X = BODY LENGTH	Y = THREAD
A for 14 mm	A for 1/4" BSP
B for 28.5	B for 9/16 - 24 NEF
C for 22.5	

## SHOWERS

### HIGH IMPACT STRAIGHT JET NOZZLES



**FBA**

**FBA**

These nozzles are designed for high impact washing, with respect to conventional straight jet nozzle. Made out of hardened stainless steel for longer life, the nozzles are fitted with an internal flow straightener to improve spray performance (to be removed for use with white water).

**Material** C2 AISI 420 Stainless steel, hardened

Code	DO (mm)	Capacity at different pressures (lpm) (bar)							
		20	30	40	50	60	70	80	100
FBA 1450 C2	0.9	2.0	2.5	2.9	3.2	3.5	3.8	4.0	4.5
FBA 1686 C2	1.1	3.0	3.7	4.3	4.8	5.2	5.7	6.0	6.8
FBA 1930 C2	1.2	4.0	4.9	5.7	6.4	7.0	7.5	8.0	9.0
FBA 2116 C2	1.3	5.0	6.2	7.1	8.0	8.7	9.4	10.1	11.3
FBA 2138 C2	1.5	6.0	7.4	8.5	9.6	10.5	11.3	12.1	13.5
FBA 2160 C2	1.6	7.0	8.6	10.0	11.1	12.2	13.2	14.1	15.8
FBA 2181 C2	1.7	8.1	9.9	11.4	12.7	14.0	15.1	16.1	18.0
FBA 2204 C2	1.8	9.1	11.1	12.8	14.3	15.7	17.0	18.1	20.3
FBA 2226 C2	1.9	10.1	12.3	14.2	15.9	17.4	18.8	20.1	22.5



**HT**

### QUICK CONNECT NOZZLES

**HT**

Quick connect nozzles offer the convenience of a fast and straightforward replacement, while keeping the original spray alignment. Nozzle tips are assembled onto bodies with thread or weld connections, each body being provided with a water-tight rubber (standard) or viton seal.

**Materials** Tip & Body B31 316L Stainless steel  
 T1 Brass  
 Seal E0 Synthetic rubber  
 E7 Viton

Please ask for our **Data Sheet 9795** for further details and performance charts.



### QUICK-JET

Quick connect nipples are available in a variety of two sizes and male threads ranging from 1/4" to 1/2", each nipple coming complete with seal.

## SELF CLEANING NOZZLES

**GF**

The GF nozzle design helps to greatly reduce shower maintenance requirements. The nozzle body contains a mobile piston that will retract, purging the nozzle orifice when the line feed pressure is reduced. Secured by means of a locknut to nipples welded onto the shower bar, these are available with needle jet or flat jet spray patterns. Self-cleaning nozzles allow for easy installation and alignment. GF nozzles are supplied with different thread types, as shown in the table below, and therefore their product code is to be completed with the two final digits showing the thread style required.

**Materials**      Nozzle      B31    AISI 316L Stainless steel  
                          Spring      N1      AISI 302 Stainless steel

Code	Capacity at different pressure values (lpm) (bar)									
	3	4	5	6	7	8	10	15	20	
0°	GFA 1100 B31xx	1.00	1.15	1.29	1.41	1.53	1.63	1.83	2.24	2.58
	GFA 1235 B31xx	2.35	2.71	3.03	3.32	3.59	3.84	4.29	5.25	6.07
	GFA 1330 B31xx	3.30	3.81	4.26	4.67	5.04	5.39	6.02	7.38	8.52
45°	GFM 1630 B31xx	6.30	7.27	8.13	8.91	9.62	10.3	11.5	14.1	16.3
	GFM 1750 B31xx	7.50	8.66	9.68	10.6	11.5	12.2	13.7	16.8	19.4
	GFM 1970 B31xx	9.70	11.2	12.5	13.7	14.8	15.8	17.7	21.7	25.0
	GFM 2121 B31xx	12.1	14.0	15.6	17.1	18.5	19.8	22.1	27.1	31.2
	GFM 2139 B31xx	13.9	16.1	17.9	19.7	21.2	22.7	25.4	31.1	35.9
60°	GFQ 1630 B31xx	6.30	7.27	8.13	8.91	9.62	10.3	11.5	14.1	16.3
	GFQ 1750 B31xx	7.50	8.66	9.68	10.6	11.5	12.2	13.7	16.8	19.4
	GFQ 1970 B31xx	9.70	11.2	12.5	13.7	14.8	15.8	17.7	21.7	25.0
	GFQ 2121 B31xx	12.1	14.0	15.6	17.1	18.5	19.8	22.1	27.1	31.2
	GFQ 2139 B31xx	13.9	16.1	17.9	19.7	21.2	22.7	25.4	31.1	35.9
80°	GFT 1630 B31xx	6.30	7.27	8.13	8.91	9.62	10.3	11.5	14.1	16.3
	GFT 1750 B31xx	7.50	8.66	9.68	10.6	11.5	12.2	13.7	16.8	19.4
	GFT 1970 B31xx	9.70	11.2	12.5	13.7	14.8	15.8	17.7	21.7	25.0
	GFT 2121 B31xx	12.1	14.0	15.6	17.1	18.5	19.8	22.1	27.1	31.2
	GFT 2139 B31xx	13.9	16.1	17.9	19.7	21.2	22.7	25.4	31.1	35.9

**GF****LOCKNUT**

Locknuts matching the nozzle thread type are identified by products code as shown in the table below.

**LOCKNUT XG F7010****NIPPLES**

A specially profiled AISI 316 stainless steel nipple is designed for ease of assembly in the shower header weld-up process.

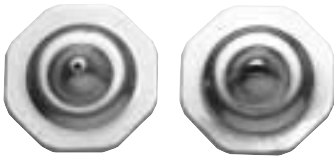
See table below for precise code identification, based on thread type.

THREAD TYPE	M 28 x 1.5	3/4"- 20	1 1/8"- 20
Nozzle	GfX 1750 B3SM	GfX 1750 B3SN	GfX 1750 B3SP
Nipple	XGF 2832 B3SM	XGF 2832 B3SN	XGF 2832 B3SP
Locknut	XGF 7010 B3SM	XGF 7010 B3SN	XGF 7010 B3SP

**NIPPLE XGF 2382**

**SHOWERS**

**DISC NOZZLES**



**GE**



**NIPPLE  
XUF 0705 B3**



**LOCKNUT  
XUF 0701 B3**



**SAFETY RING  
VLH 0301 B2**



**SEAL  
VDA 0030 E8**

**GE**

These nozzles have been designed to produce a sharp, high impact flat jet, and with a large orifice clogging is minimized. The nozzle body is manufactured by a stainless steel sheet stamping process, and the orifice profile is obtained by high precision machining.

Our patented orifice profile provides basic advantages over any other nozzle:

- Because of our machining technology all nozzles are burr free.
- All nozzles have zero tolerance on capacity, as well as a perfect water blade.
- The orifice profile has a radius instead of a sharp change of direction at the sides, hence turbulence points are minimized and a more streamlined water blade is produced.
- The profile design allows for a uniform steel sheet thickness around the orifice, which means our nozzles will outlast the competition.

**Materials**

- B3 Aisi 316 Stainless steel
- B2 Aisi 304 Stainless steel
- F31 Ruby insert on 316 body (straight jet nozzles only)

Code	D1	Water capacity at different pressures (lpm) (bar)						
		3	4	6	10	15	20	
0°	GEA 0500 xx	0.8	0.5	0.6	0.7	0.9	1.1	1.3
	GEA 0900 xx	1.0	0.9	1.0	1.2	1.6	2.0	2.2
	GEA 1130 xx	1.2	1.3	1.5	1.6	2.0	2.5	2.9
	GEA 1170 xx	1.5	1.7	2.0	2.4	3.0	3.8	4.3
	GEA 1310 xx	2.0	3.1	3.6	4.4	5.6	6.9	7.9
60°	GEQ 0900 xx	1.0	0.9	1.0	1.2	1.6	2.0	2.2
	GEQ 1170 xx	1.5	1.7	2.0	2.4	3.0	3.8	4.3
	GEQ 1310 xx	2.0	3.1	3.6	4.4	5.6	6.9	7.9
	GEQ 1490 xx	2.5	4.9	5.6	6.9	8.9	10.8	12.6
	GEQ 1780 xx	3.0	7.8	9.0	11.0	14.1	17.5	20.0
	GEQ 2124 xx	4.0	12.4	14.3	17.5	22.7	27.6	32.0
GEQ 2194 xx	5.0	19.4	22.4	27.4	35.4	42.97	50.0	



**PATENTED ORIFICE PROFILE**

This special orifice profile, developed in our laboratories, is a major advance in the process of felt cleaning.

International patents applied for.



**SHOWER PIPES**

We supply fixed or oscillating complete shower headers, fitted with our high quality GE type nozzles assembled by means of specially designed self orientating nipple and safety locknut. The highest quality materials and workmanship assure for a long and satisfactory service. Please ask for our Data Collection Form code 8AD A001 RB.





## OSCILLATING MOTOR

**UFX**

While the job of removing the cellulose fibers is actually made from the water jets, a high quality shower oscillator must assure some prerequisites to perform satisfactorily. With features such as oscillator speed proportional to paper machine, constant speed trough felt width, and minimal dwell time, our shower oscillator is a valuable component of the felt cleaning process.

Designed with a sturdy construction, sophisticated electronic control and the high technology drive system based on a preloaded ball screw, our oscillators offer an exact and precise movement, with no mechanical play and minimal backlash. The oscillator is built to a IP 65 protection grade, and the inner volume is kept under higher than ambient pressure, which keeps the inside parts in perfect working conditions for maximum reliability even under the worse conditions.

Push / Pull force	5000	N
Span	200	mm
Maximum speed	10	mm per second
Temperature range	0-50	°C
Inside air pressure	0,3	bar

**Material** Body B3 Aisi 316 Stainless steel

**AUTOMATIC DRIVE**

The high quality electronic control of the oscillator can be operated in manual mode, or automatically driven using a speed signal provided by the paper machine. Either way, the internal microprocessor controls the shower motion based on the four basic parameters, felt length, speed, twist and nozzle pitch. A standard RS 232 port allows for monitoring the shower operation from a remote location.

An emergency stop is provided, as requested from EN 60204.

Feed	220	V - 50 Hz
Unit power	250	VA



# OTHER PAPERMILL PRODUCTS



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## PAPERWEB TRIMMERS

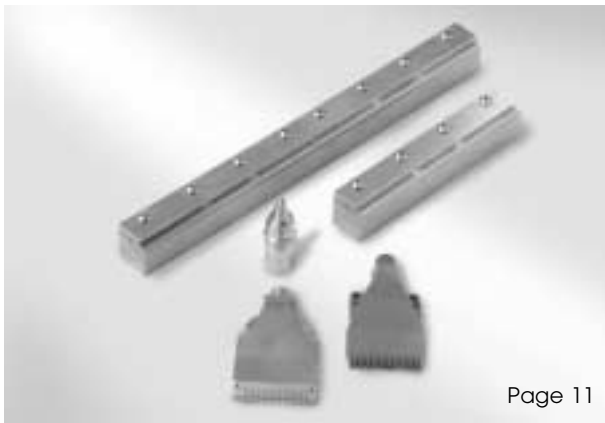
Sharp, straight water jets are produced by these specially designed nozzles, to precisely trim the sides of a paperweb. All trimmers are available with brass body and tip, and with a stainless steel filter on the feed side. Orifices available with ruby insert, or hardened stainless steel.



Page 10

## AIR ASSISTED ATOMIZERS

Pre-wet your press section with these high quality air assisted atomizers, producing a finely atomized flat jet spray pattern. See our Catalog CTG AZ15 BR for a complete product range, special types and accessories.



Page 11

## AIR BLOWING NOZZLES

For blow-off applications, we offer models producing a flat, sharp air curtain up to 600 mm width. Available in high quality plastic materials or aluminum, see specification.



Page 12

## TANK WASHING HEADS

See our Industrial Tank Washing catalog CTG LS15 BR for our complete product range, working with low and high pressures. Find the ideal product for chest or bleach tower cleaning in the pulp mill, or cleaning the headbox in a papermachine.


## PAPER WEB TRIMMERS

**GM**

These nozzles provide a glass-rod like, sharp needle jet which cuts the side of your paper web in a sharp and clean profile. The brass nozzle body is fitted with a large surface stainless steel filter cartridge, for long operation before service is required. The brass nozzle tip contains a high quality orifice insert (Ruby or Hardened SS) for extended life at high pressure.

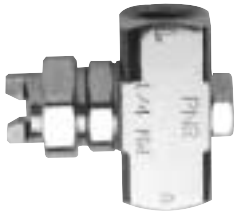
**Materials** Orifice C1 420 Aisi Stainless steel, hardened  
F31 Ruby

**GM**

	Code	D1	Water capacity (lpm) at different pressures (bar)				
			3	5	10	15	20
0°	<b>GMA 0170 xx</b>	0.40	0.17	0.21	0.31	0.38	0.43
	<b>GMA 0290 xx</b>	0.50	0.29	0.38	0.55	0.70	0.80
	<b>GMA 0320 xx</b>	0.60	0.32	0.41	0.57	0.72	0.83
	<b>GMA 0570 xx</b>	0.75	0.57	0.73	1.04	1.28	1.47
	<b>GMA 0860 xx</b>	0.90	0.86	1.17	1.66	2.04	2.35
	<b>GMA 1100 xx</b>	1.00	1.00	1.29	1.83	2.25	2.59
	<b>GMA 1185 xx</b>	1.25	1.85	2.40	3.40	4.20	4.80
	<b>GMA 1270 xx</b>	1.50	2.70	3.50	4.90	6.00	6.90

**ADDITIONAL MILL APPLICATIONS**

**AIR ASSISTED ATOMIZERS**



**MW**

MW air assisted atomizers provide an ultra fine atomized spray, in a wide range of capacities, spray angles and spray patterns. Commonly used for such applications as paper remosturizing, paper coating, lubrication and humidification. See our Air Atomizers Catalog CTG AZ15 BR for our complete product range.

- Materials** B1 AISI 303 stainless steel  
 B3 AISI 316 stainless steel (on request)

*Air pressures (bar)*

Set-up Code	L		A		L		A		L		A		PA	PL	C	HM	
<b>SUM 2167</b>	1,0	9,0	25	2,4	11,6	48	3,1	15,6	56	4,2	17,1	73	1,4	0,7	170	3000	
	1,1	7,8	30	2,5	10,4	51	3,2	14,6	59	4,6	15	80	2,5	1,5	200	3700	
	1,3	6,6	32	2,7	9,40	54	3,4	13,7	62	4,9	12,8	87	3,2	2,0	220	4000	
	1,4	5,2	36	3,0	7,30	61	3,8	10,8	71	5,3	11	94	3,8	3,0	280	4200	
	1,7	3,1	44	3,2	5,50	68	4,2	8,5	82	5,6	9,4	103	5,3	4,0	330	4800	
	Ln XMW 5002	2,0	2,0	50	3,5	4,10	75	4,9	5,2	98	6,3	7,2	119	-	-	-	-
	An XMW 4021	2,2	1,1	56	3,8	2,90	81	6,0	2,3	120	7,0	6,1	134	-	-	-	-
<b>SUU 2171</b>	0,9	8,2	20	2,1	13,5	36	2,7	19,1	42	4,6	16,1	69	1,1	0,7	710	2100	
	1,0	6,8	23	2,4	11,4	42	3,0	17,1	46	4,9	13,8	76	2,1	1,5	810	2400	
	1,1	5,5	27	2,7	9,20	47	3,2	15,1	52	5,3	11,5	83	3,0	2,0	890	2600	
	1,3	4,1	30	3,0	7,10	53	3,5	13,1	57	5,6	9,3	90	3,5	3,0	970	2700	
	1,4	2,9	34	3,2	5,00	59	4,2	8,1	72	6,0	7,3	97	5,6	4,0	970	3200	
	Ln XMW 5002	-	-	-	3,4	4,00	63	4,6	5,9	79	6,3	5,6	104	-	-	-	-
	An XMW 4020	-	-	-	3,5	3,30	66	4,9	4,0	86	6,7	4,3	112	-	-	-	-
<b>SUM 2320</b>	1,1	11,2	54	2,7	19,6	93	3,5	27	112	4,6	33	137	1,4	0,7	200	3000	
	1,3	8,5	60	2,8	17,3	98	3,7	25	116	4,9	28	149	2,4	1,5	330	3200	
	1,4	6,5	65	3,0	15,2	103	3,8	23	121	5,3	24	161	3,0	2,0	460	3400	
	1,5	5,0	71	3,1	13,2	109	3,9	21	126	5,6	19,7	174	3,7	3,0	460	3500	
	Ln XMW 5003	1,7	3,8	77	3,2	11,4	114	4,1	18,9	132	6,0	15,7	187	5,3	4,0	480	4000
	An XMW 4024	-	-	-	-	-	-	4,2	17	137	6,3	12,4	200	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>SUM 2600</b>	1,0	17,0	23	2,4	28,0	51	3,4	38	72	3,9	65	75	1,1	0,7	150	2400	
	1,1	11,0	27	2,5	23,0	59	3,5	33	80	4,2	53	89	2,1	1,5	170	3000	
	1,3	7,6	33	2,7	18,9	66	3,7	28	89	4,6	40	108	2,8	2,0	220	3400	
	1,4	3,2	40	2,8	15,1	74	3,8	23	97	4,9	30	127	3,7	3,0	280	3600	
	Ln XMW 5004	-	-	-	3,0	11,7	79	3,9	19,7	105	5,3	21	149	4,9	4,0	350	4000
	An XMW 4023	-	-	-	-	-	-	4,2	13,1	120	5,6	13,8	173	-	-	-	-
	-	-	-	-	-	-	-	4,6	7,2	138	6,3	3,2	225	-	-	-	-
<b>SUQ 2700</b>	0,9	27,0	33	2,4	39,0	67	3,2	58	76	4,6	59	106	1,1	0,7	300	3400	
	1,0	20,0	38	2,7	30,0	77	3,5	47	87	5,3	40	132	2,4	1,5	410	3500	
	1,1	15,9	45	3,0	24,0	87	3,8	38	97	5,6	32	145	3,2	2,0	430	3700	
	1,3	12,5	48	3,2	17,8	98	3,9	34	103	6,0	26	158	3,9	3,0	480	3800	
	1,4	10,2	56	3,4	15,1	103	4,2	27	113	6,3	20	172	6,0	4,0	510	4400	
	Ln XMW 5004	1,5	7,6	62	3,5	12,9	109	4,6	20	126	6,7	15,9	185	-	-	-	-
	An XMW 4024	-	-	-	3,7	10,6	114	4,9	14,8	140	7,0	12,7	198	-	-	-	-
<b>SUQ 3126</b>	1,0	29,0	90	2,1	100	119	3,0	126	140	4,1	140	181	1,0	0,7	250	3400	
	1,1	18,9	108	2,2	79,0	133	3,1	110	151	4,2	125	193	1,8	1,5	430	3800	
	-	-	-	2,4	62,0	147	3,2	95	163	4,6	89	225	2,4	2,0	460	4300	
	-	-	-	2,5	48,0	162	3,4	78	184	4,9	58	265	3,4	3,0	530	4600	
	-	-	-	2,7	36,0	177	3,5	62	193	5,3	34	305	4,9	4,0	580	5200	
	Ln XMW 5005	-	-	-	-	-	-	3,7	48	210	5,6	16,7	340	-	-	-	-
	An XMW 4025	-	-	-	-	-	-	3,8	37	225	-	-	-	-	-	-	-



**UMQ**

Our control cabinets are simple, cost convenient solution for the fine tuning of your humidification system, and are delivered complete with all the equipment necessary for precise system control. See full specification in Catalog CTG AZ15 BR

Code	L	AA	AC
UMQ AA01 V0	1/4"	3/8"	1/4"
UMQ AA02 V0	3/8"	1/2"	1/4"
UMQ AB01 V0	1/4"	3/8"	*
UMQ AB02 V0	3/8"	1/2"	*

- L = Water inlet  
 AA = Atomizing air  
 AC = Cylinder drive air  
 \* These cabinets have one only air line

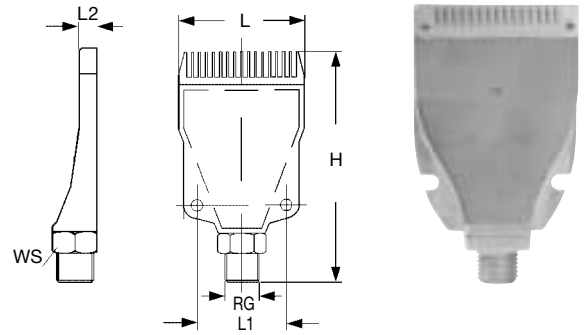
**ADDITIONAL MILL APPLICATIONS**

**BLOW OFF AIR NOZZLES**

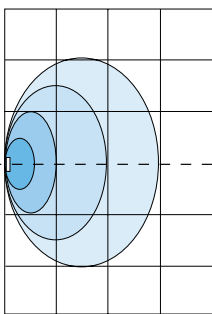
**UEA 0525**

These air blowers have been designed for applications where a flat blade-shaped air stream, with high specific impact must cover a given width on a moving conveyor. Here again the outside profile obtains a strong entrainment action over the surrounding atmosphere, generating an high impact air blade, and avoiding the highly turbulent conditions of a free air jet with consequent loss of energy and high noise.

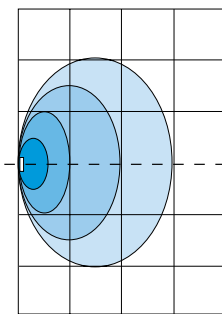
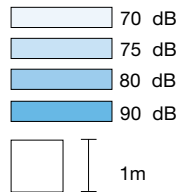
**Materials** E31 Polyacetalic resin (POM)  
(LT 80°C LP 5 bar)  
V7 Aluminum, electroless nickel plated  
(LT 95°C LP 15 bar)



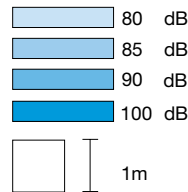
Code	RG	Air Capacity (Nm³/h)						H	L	L1	L2	WS
		10	17	22	28	33	33					
UEA 0525 E31	1/4"	10	17	22	28	33	90	48	35	6,5	16	
UEA 0527 V7	1/4"	10	17	22	28	33	90	48	35	6,5	16	



Noise level diagram at 3 Bar air pressure.



Noise level diagram at 6 Bar air pressure.



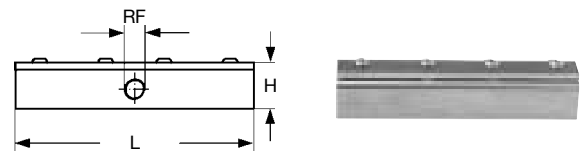
**UEB**

UEB blowers produce a laminar jet of compressed air, with high efficiency and limited noise level. Their unique design provides an air stream exiting from a protected position, and changing direction because of adherence to a radiused profile thanks to the Coanda effect.

Their design allows for remarkable advantages:

- The exit orifice is not exposed to the risk of being damaged by impact.
- The bar can be built on any desired length, up to 600 mm.

**Materials** Body V7 Electroless nickel plated aluminum  
Upper Plate A9 Nickel plated steel

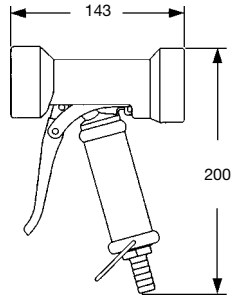


Code	RF	Air Capacity (Nm³/h)										H	L	W
		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT			
UEB 0150 V1	1/4"	0,26	4,70	0,34	6,00	0,42	7,10	0,51	8,60	0,60	10,6	30	150	0,3
UEB 0300 V1	1/4"	0,52	9,40	0,68	12,0	0,84	14,2	1,02	17,2	1,20	21,2	30	300	0,7
UEB 0600 V1	1/4"	1,03	18,7	1,40	24,0	1,68	28,4	2,04	34,4	2,40	42,4	30	600	1,4



## ADDITIONAL MILL APPLICATIONS

### MILL CLEAN UP

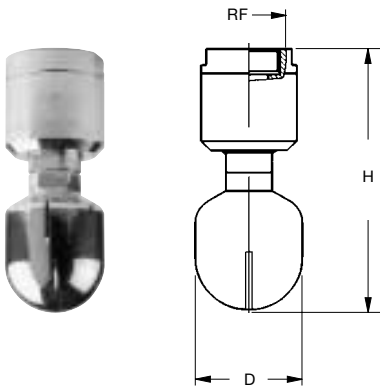


**UMV 2210 T2**

#### UMV

The UMV washgun is a well proven ergonomic design, with the adjustable jet pattern, helps reduce water waste, the front side trigger and the sturdy rubber lining assure excellent performance in thousands of industrial plants throughout the world.

See our catalog CTG AC15 BR for full details and accessories list.



### TANK CLEANING NOZZLES

We make available one of the widest range of tankwashing nozzles and rotating heads in the industry. Our tankwashers are typically used for such applications as chest or bleach tower cleaning in the pulp mill, or cleaning the headbox in a papermachine. Please refer to our Catalog CTG LS15 BR for complete information.

# ADDITIONAL PRODUCTS

## **BASIS WEIGHT VALVE**

A very delicate and important part in every paper making machine. Our valves have passed the 'real world' test, working satisfactorily for years under harsh papermill conditions.



Page 14

## **ASSEMBLY ACCESORIES**

Simplify installation while improving the look and effectiveness of your system with PNR professional assembly accessories.



Page 15

## **POLLUTION CONTROL NOZZLES**

Thousand of scrubbers and pollution control plants around the world make use of our hydraulic full cone and spiral nozzles, as well as our air assisted cooling lances. Available in the best stainless steel qualities, and any special alloys upon request.



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## ADDITIONAL MILL APPLICATIONS

### BASIS WEIGHT VALVE



#### UX

This critical valve must precisely adjust the pulp quantity which enters the machine, controlling the paper weight. The automatic adjustment mechanism of this component needs to be designed with extreme care, since the high precision required on very fine adjustment must not be affected by any mechanical play.

Our system, based on a globe valve driven by an electrical stepper motor through a ball screw drive, eliminates the danger of mechanical play, and assures precise valve settings independent from the value of the resisting torque.

The flow through the valve varies as a linear function of the opening angle (0° to 90°).

The electronic control cabinet matches the high quality of the valve itself, and offers the following:

- Local or Remote valve control
- Adjustment speed is variable, can be set slow for remote control, or fast for manual control.
- High precision automatic weight control.

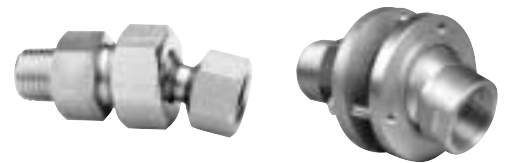


**LINE FILTERS**

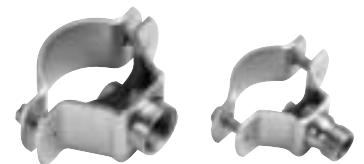
A wide range of line filters is shown in our Accessories Catalog, for capacities ranging up to 1050 lpm.

**BALL FITTINGS**

Three models of ball fittings allow for convenient nozzle orientation, sizes ranging from 1/8" to 2 1/2", manufactured in brass or stainless steel. See our catalog CTG AC15 BR for full specification.

**ASSEMBLY CLAMPS**

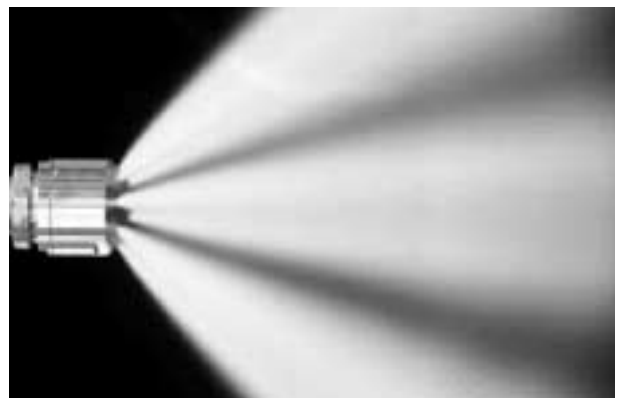
The easiest and fastest way to assemble nozzle onto a shower header, without threading or welding. The assembly only requires drilling a hole into the pipe. Great for replacing nozzles on a stripped thread location.

**POLLUTION CONTROL NOZZLES**

Our nozzles catalog shows several full cone, hollow cone and spiral nozzles, which assure the highest resistance to plugging, and the added feature of self-drainage to reduce chemical build-up. Capacities up to 500 lpm, spray angles up to 120° and the choice between full cone and hollow cone spray pattern allow for optimal scrubber design. Several types of stainless steel and superalloys available.

**AIR ASSISTED LANCES**

We offer a full range of high quality air assisted atomization lances to be used for evaporative cooling systems, with a wide choice of stainless steel or other special alloys. See our Evaporative Cooling Catalog CTG LN15 BR for full details.





**ADDITIONAL INFORMATION****ABBREVIATIONS**

CA	Internal volume	liter	LP	Max oper. pressure	bar	Q	Maximum capacity	lpm
DI	Inlet diameter	mm	LQ	Maximum capacity	lpm	RF	Female thread	inches
D, D1	Diameter	mm	LT	Max oper. temperature	°C	RG	Male thread	inches
DO	Orifice diameter	mm	MF	Size flexible hose	inches	S	Thickness	mm
E	Inlet thread size	inches	P	Depth	mm	SV	Sviwel base model	--
H, H1	Height	mm	PD	Pipe external diameter	mm	U	Outlet thread size	inches
HE	Height	mm	PS	Pipe size	inches	W	Weight	kg

**PRODUCT WARRANTY**

PNR products will be replaced or repaired at the option of PNR, free of charges if defective in manufacture, labeling or packaging.

The above warranty conditions will apply if notice of defect is received by PNR within 30 days from date of product installation or one year from date of shipment.

The cost of above said replacement or repair shall be the exclusive remedy for any breach of any warranty, and PNR shall not be held liable for any damages due to personal injuries or commercial losses coming from product malfunction.

**PRODUCT RETURN POLICY**

Should you need to return PNR products, please note the following.

- 1 Obtain from PNR a return authorization number.
- 2 Products delivered in error by Pnr can be returned against credit for product and shipping cost.
- 3 Products ordered to PNR incorrectly can be returned for credit at the following conditions:
  - 3.1 Products must be in original conditions.
  - 3.2 Customer is responsible for return of product.
  - 3.3 A re-stocking charge of 15% applies to catalog products.

**NON CATALOG PRODUCTS**

Return subject to quotation.

**SENDING LIST**

In order to automatically receive updates of our technical documentation, please photocopy this card and send it to us in a sealed envelope or via fax. Your details will be kept on our Permanent Mailing List.

**CTG PM06 BR**

01	COMPANY		SPRAY NOZZLES	
02	NAME		AIR ASSISTED ATOMIZERS	
03	FUNCTION		EVAPORATIVE COOLING LANCES	
04	ADDRESS		SPRAYDRY NOZZLES	
05	PHONE	FAX	TANK WASHING SYSTEMS	
06	WEB SITE	E MAIL	ACCESSORIES AND FITTINGS	



**PNR UK LTD**

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BROMSGROVE WORCS B60 3DW  
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www.pnr-nozzles.com - E-mail: spraynozzles@pnr.co.uk

## CTG PM06 BR



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