

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.



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.



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.



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.



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	

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

**GF**

	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

LOCKNUT

GF nozzles as identified by above codes do not include locknut, that has to be ordered separately with the appropriate code according to the nozzle thread. See 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.

**NIPPLE XGF 2382**

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

SHOWERS

DISC NOZZLES



GE



**LOCKNUT
XTS 1008 B31**



**NIPPLE
XTS 1B07 B31**



**SAFETY RING
VLH A031 B2**



**SEAL
VDA 19A1 E8**



RUBY ORIFICE

To assure longer operation life GE nozzles can be supplied with a ruby orifice fitted into a machined body, for straight jet types only and with material codes as stated above.

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

C7 AISI 316 Ti 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.



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 **B31** Aisi 316L 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

