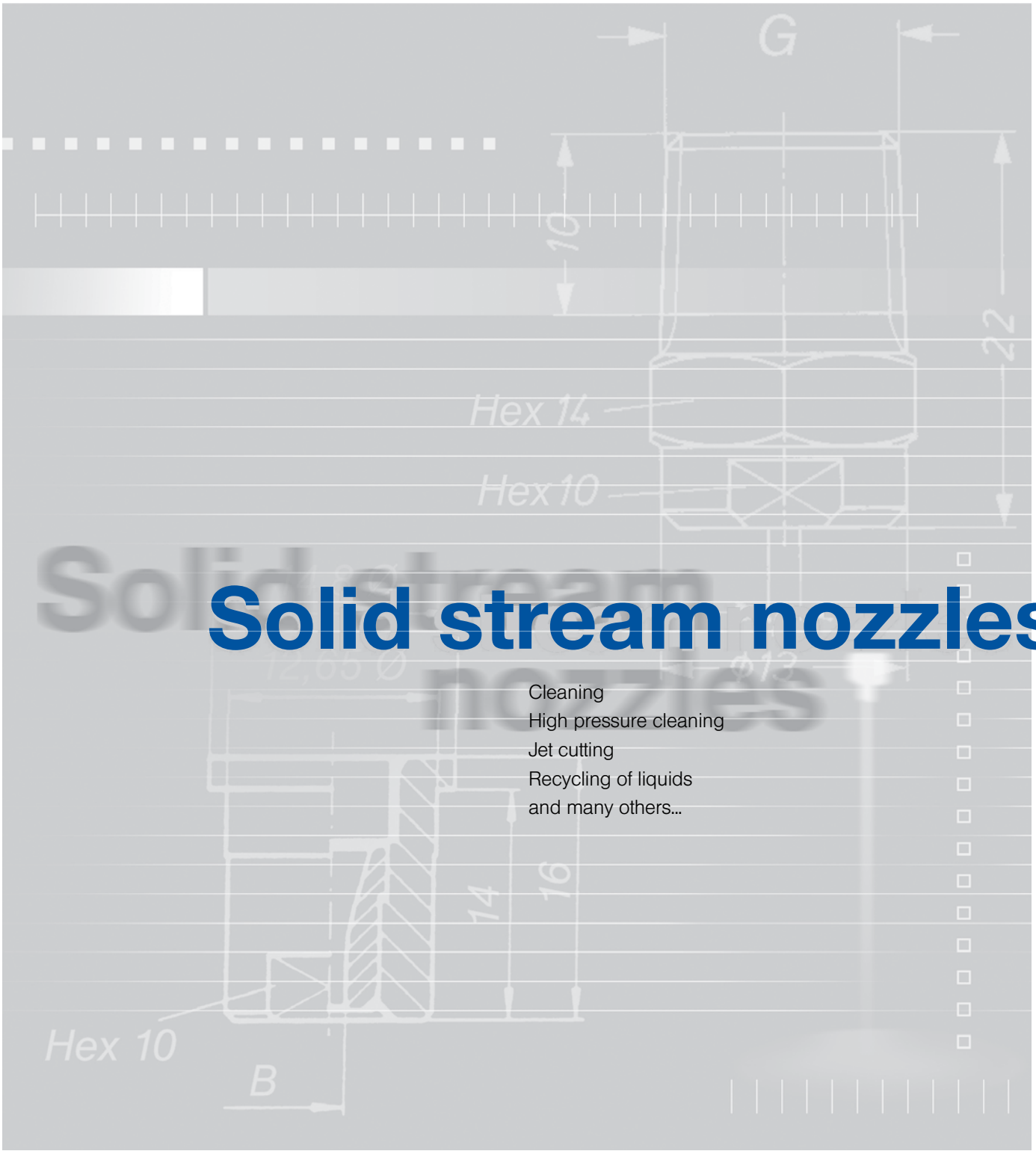


Solid stream nozzles

Cleaning
High pressure cleaning
Jet cutting
Recycling of liquids
and many others...

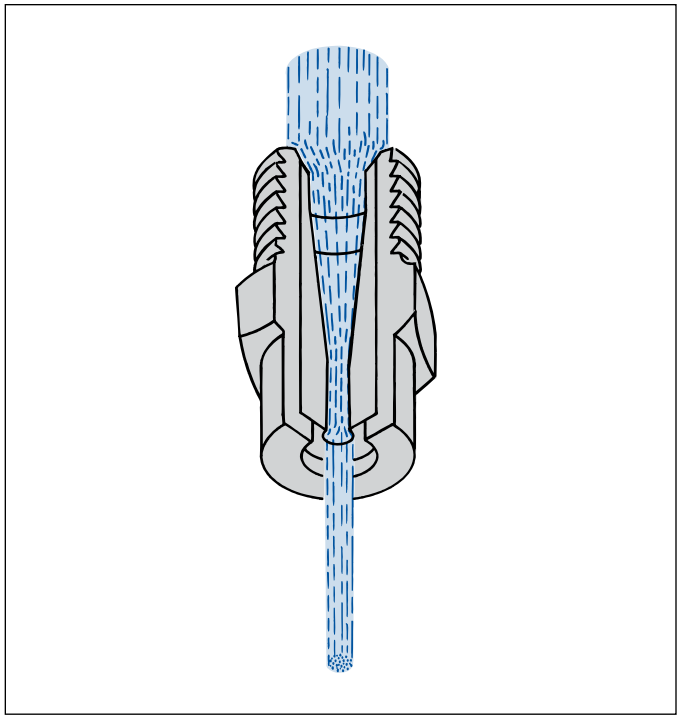
Solid stream nozzles

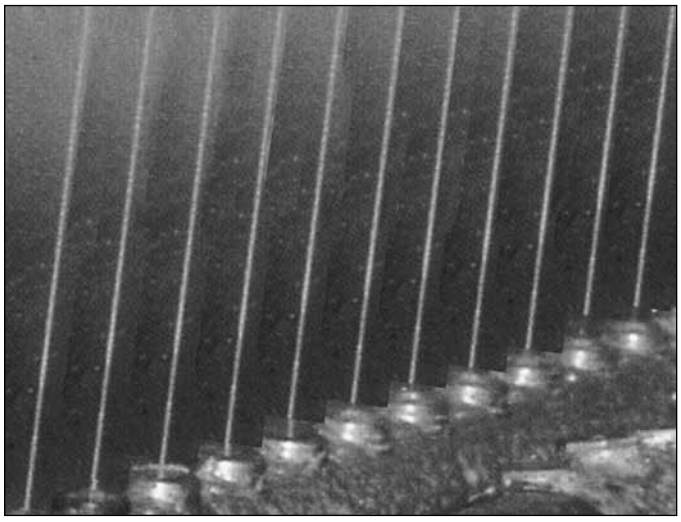
Thanks to optimum flow geometries, Lechler solid stream nozzles produce compact, solid stream jets of defined lengths. The almost turbulence-free liquid inflow results in excellent spray efficiency, even without jet stabilizer inserts.

Solid stream nozzles provide the greatest impact per square inch of any other type of nozzle, all other factors being equal (such as flow rate, pressure, and spray distance). A solid stream nozzle is considered a 0° flat fan nozzle, and a flat fan nozzle's impact per square inch increases as the spray angle decreases. That is why a 0° nozzle (i.e., a solid stream nozzle) provides the greatest impact.

So for all cleaning processes, cutting operations, and applications requiring perfect columnar impacts in order to generate concentrated jet power, the precision and power of Lechler solid stream nozzles enhance the productivity and performance of your plant.

For applications requiring high pressure, Lechler has a comprehensive range of solid stream nozzles in stainless steel with special hardening. **Lechler high pressure solid stream nozzles** create tight, stable, and powerful solid jets which do not break apart even when operating at high pressures.

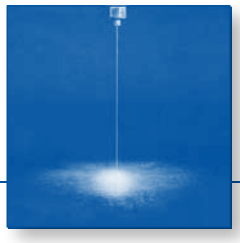




Solid stream header in use at a paper mill

Solid stream nozzles

Series 544



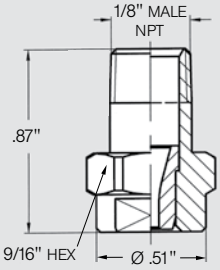
Solid stream with excellent stability offers the highest impact. Orifice design maintains integrity over long distances.

Applications:
- Concentrated cleaning
- Paper trimming

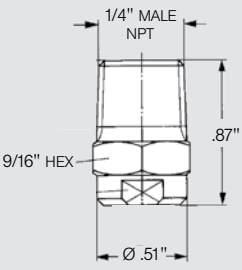
Series 544.110 – 544.400

Series 544.480 – 544.800

Series 544.480 – 544.800



Weight brass: .03 lb.



Weight brass: .04 lb.

Ordering no. Type	Mat. no. 303 SS 16	Mat. no. Brass 30	Connection Male NPT 1/8" BA	Connection Male NPT 1/4" BC	Orifice diam. (in.)	Flow Rate (Gallons Per Minute) 10 psi	20 psi	liters per minute 2 bar	40 psi	60 psi	80 psi	100 psi	150 psi
544. 110	○	○	**BA**	**BC**	.009	.006	.009	.04	.012	.015	.018	.020	.023
544. 160	○	-	**BA**	**BC**	.013	.009	.013	.06	.019	.023	.026	.029	.034
544. 200	○	○	**BA**	**BC**	.015	.016	.022	.10	.031	.038	.044	.049	.058
544. 240	○	-	**BA**	**BC**	.020	.025	.035	.16	.05	.06	.07	.08	.10
544. 280	○	-	**BA**	**BC**	.025	.04	.05	.25	.08	.10	.11	.12	.15
544. 320	○	○	**BA**	**BC**	.031	.06	.09	.40	.12	.15	.18	.20	.24
544. 360	○	○	**BA**	**BC**	.033	.10	.14	.63	.20	.24	.28	.31	.37
544. 400	○	○	**BA**	**BC**	.041	.16	.22	1.0	.31	.38	.44	.49	.59
544. 480	○	○	**BA**	**BC**	.052	.25	.35	1.6	.50	.61	.70	.78	.95
544. 560	○	○	**BA**	**BC**	.065	.39	.55	2.5	.78	.95	1.1	1.2	1.5
544. 640	○	○	**BA**	**BC**	.082	.62	.88	4.0	1.2	1.5	1.8	2.0	2.4
544. 720	○	○	**BA**	**BC**	.105	.98	1.4	6.3	2.0	2.4	2.8	3.1	3.7
544. 800	○	○	**BA**	**BC**	.130	1.6	2.2	10.0	3.1	3.8	4.4	4.9	5.9

Example for ordering:	Type	+	Material no.	+	Conn.	=	Ordering no.
	544. 720	+	**30**	+	**BC**	=	**544. 720. 30. BC**

A listing of alternatives for various assembly possibilities is shown in the Accessories section beginning on page 127.

Conversion formula for the above series: $V_2 = V_1 \sqrt{\frac{P_2}{P_1}}$

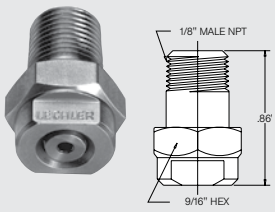
(See page 12 for symbol definitions.)

Solid stream nozzles
High pressure
Series 546 / 548 / 550

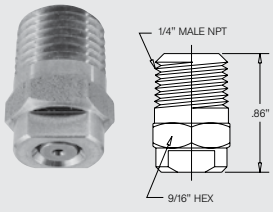
Exceptionally tight solid stream nozzles for pressures up to 4500 psi. Available in 1/8" NPT or BSPT, 1/4" NPT or BSPT, or tip version.

Applications:
- High pressure cleaning
- Trimming
- Jet cutting

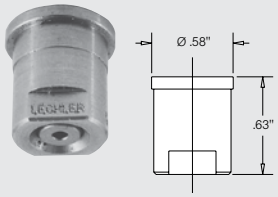
Materials:
Nozzle body: 303 SS
Insert: Hardened stainless steel



Series 550, Weight: .03 lb.



Series 546, Weight: .04 lb.



Series 548, Weight: .03 lb.

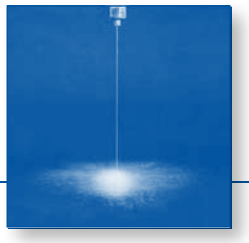
Nozzle Code			Flow Rate Code	Orifice diam.	Flow Rate (Gallons Per Minute)								
									liters per minute				
1/8" Male NPT or BSPT	1/4" Male NPT or BSPT	Tip		(in.)	300 psi	450 psi	725 psi	1000 psi	100 bar	1500 psi	2000 psi	3000 psi	4500 psi
550	**546**	**548**	**360**	.033	.54	.67	.84	.99	4.5	1.2	1.4	1.7	2.1
550	**546**	**548**	**400**	.041	.82	1.0	1.3	1.5	6.8	1.8	2.1	2.6	3.2
550	**546**	**548**	**410**	.042	.90	1.1	1.4	1.6	7.5	2.0	2.3	2.8	3.5
550	**546**	**548**	**420**	.044	.96	1.2	1.5	1.8	8.0	2.1	2.5	3.0	3.7
550	**546**	**548**	**450**	.047	1.1	1.3	1.7	2.0	9.2	2.5	2.8	3.5	4.3
550	**546**	**548**	**470**	.050	1.2	1.5	1.9	2.3	10.3	2.8	3.2	3.9	4.8
550	**546**	**548**	**480**	.052	1.4	1.7	2.2	2.5	11.5	3.1	3.6	4.4	5.4
550	**546**	**548**	**500**	.055	1.5	1.9	2.4	2.8	12.6	3.4	3.9	4.8	5.9
550	**546**	**548**	**520**	.058	1.7	2.0	2.6	3.0	13.8	3.7	4.3	5.2	6.4
550	**546**	**548**	**570**	.067	2.2	2.7	3.4	4.0	18.2	4.9	5.6	6.9	8.4
550	**546**	**548**	**600**	.074	2.7	3.3	4.2	5.0	23	6.1	7.0	8.6	10.5
550	**546**	**548**	**670**	.091	4.1	5.0	6.4	7.5	34	9.2	10.6	13.0	15.9
550	**546**	**548**	**720**	.105	5.5	6.7	8.5	10.0	46	12.3	14.2	17.3	21

Connection Code	Connection	Maximum pressure
A3. 00	Male BSPT	Approx. 5000 psi
A3. 07	Male NPT	Approx. 5000 psi
A3. 29	Retainer cap	Approx. 3000 psi

Example for ordering: (see bolded column headings above)	Nozzle code	+	Flow rate code	+	Connection code	=	Ordering no.
	550.	+	**360.**	+	**A3. 07**	=	**550. 360. A3. 07 (.99 gpm & 0° spray angle @ 1000 psi; 1/8" Male NPT)**

Conversion formula for the above series: $V_2 = V_1 \sqrt{\frac{P_2}{P_1}}$
(See page 12 for symbol definitions.)

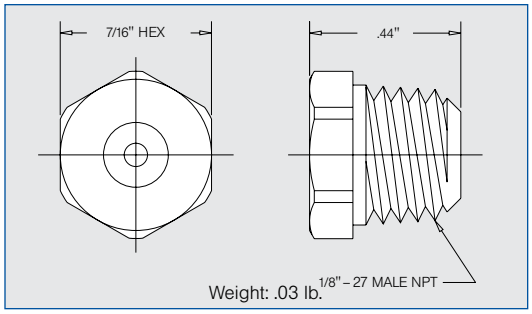
Solid stream nozzles
High pressure
Series 599



For tight clearance installation, these small nozzles create a very precise, collimated stream at a wide range of pressures. The rear orifice position helps minimize clogging and facilitates cleaning.

Applications:
- Paper production
- High pressure cleaning

Material:
316 SS



Ordering no.	Orifice Diameter
599. 040. 17. 00. 15	.015" (0.38 mm)
599. 040. 17. 00. 25	.025" (0.64 mm)
599. 040. 17. 00. 31	.031" (0.79 mm)
599. 040. 17. 00. 40	.040" (1.0 mm)

Solid stream nozzles
Trimming
Series 599

Second only to a diamond in wear resistance, the ruby orifice offers amazing precision, performance consistency and long operational-life.

Applications:
- Paper production
- Trimming
- High pressure cleaning
- Jet cuttings

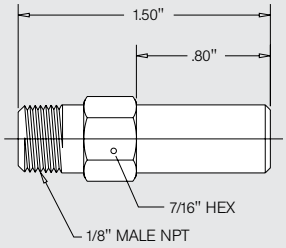
If you're tired of poor trims, replacing worn nozzles, and sheet breaks, it's time to move up to Lechler's ruby orifice trimming nozzles. It's another step in Lechler's 130 year tradition of innovation and technological development.

Materials:
Nozzle body: Brass housing
Orifice: Ruby
Strainer: 316 SS

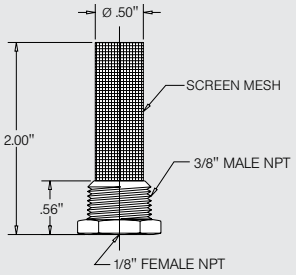
Series 599

Screen 099

The ruby orifice produces a tightly collimated solid stream for precise, predictable cutting action. The optional strainer offers a convenient way to protect against clogging caused by stray fibers or loose bits of debris in your liquid supply.



Weight: .05 lb.



Weight: .05 lb.

The ruby orifice is permanently mounted in a brass housing. The optional strainer is 316 stainless steel.

Ordering no.	Orifice diam. (in.)	Flow Rate (Gallons Per Minute) 100 psi	200 psi	300 psi	400 psi	500 psi	600 psi	800 psi	1000 psi
599. 128. 8J. BA. 15	.015	.05	.07	.09	.10	.11	.12	.14	.16
599. 128. 8J. BA. 20	.020	.09	.13	.16	.18	.20	.22	.25	.28
599. 128. 8J. BA. 25	.025	.14	.20	.24	.28	.31	.34	.40	.44
599. 128. 8J. BA. 30	.030	.20	.28	.35	.40	.45	.49	.57	.63
599. 128. 8J. BA. 35	.035	.28	.40	.48	.56	.63	.69	.79	.89
599. 128. 8J. BA. 40	.040	.36	.51	.62	.72	.80	.88	1.02	1.14
599. 128. 8J. BA. 45	.045	.45	.64	.78	.90	1.01	1.10	1.27	1.42
599. 128. 8J. BA. 50	.050	.55	.78	.95	1.10	1.23	1.35	1.56	1.74

Series 599 with Screen 099 assembled

Ordering no. Screen	Mesh size
099. 104. 17. BE. 05	50
099. 104. 17. BE. 10	100
099. 104. 17. BE. 20	200

Conversion formula for the above series: $V_2 = V_1 \sqrt{\frac{P_2}{P_1}}$

(See page 12 for symbol definitions.)

Solid stream nozzles
Needle jet
Series 599

This series is designed for use on high pressure showers.

Applications:
- Paper production
- High pressure cleaning

For longer service life, we offer this nozzle with a ruby orifice. The ruby insert resists wear and maintains a precise stream longer than stainless steel.

The alternate version, with the clog preventer, is designed for installing on showers without self-cleaning features. When the nozzle is spraying down, the extension draws fresh water from the shower above the sediment level.

Materials:
599.009.17: 316 SS

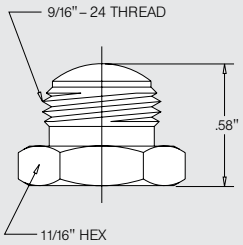
599.009.8J: 316 SS
Orifice: Ruby

599.028.17: 316 SS

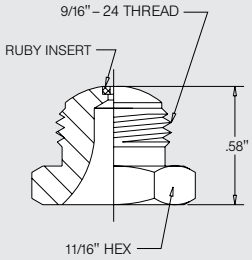
Series 599. 009. 17

Series 599. 009. 8J

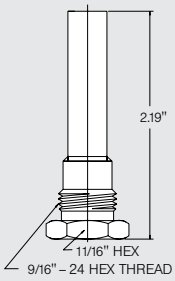
Series 599. 028. 17



Weight: .03 lb.



Weight: .03 lb.



Weight: .07 lb.

Ordering no.			Orifice Diameter
Standard Nozzle	Standard with Ruby Orifice	Clog Resistant	
599. 009. 17. 00. 14	**599. 009. 8J. 00. 14**	**599. 028. 17. 00. 14**	.014" (0.36 mm)
599. 009. 17. 00. 28	**599. 009. 8J. 00. 28**	**599. 028. 17. 00. 28**	.028" (0.71 mm)
599. 009. 17. 00. 33	**599. 009. 8J. 00. 33***	**599. 028. 17. 00. 33**	.033" (0.84 mm)
599. 009. 17. 00. 40	**599. 009. 8J. 00. 40**	**599. 028. 17. 00. 40**	.040" (1.0 mm)
599. 009. 17. 00. 55	**599. 009. 8J. 00. 55**	**599. 028. 17. 00. 55**	.055" (1.40 mm)
599. 009. 17. 00. 70	**599. 009. 8J. 00. 70****	**599. 028. 17. 00. 70**	.070" (1.78 mm)
599. 009. 17. 00. 94	**599. 009. 8J. 00. 94**	**599. 028. 17. 00. 94**	.094" (2.39 mm)
599. 009. 17. 01. 25	**599. 009. 8J. 01. 25**	**599. 028. 17. 01. 25**	.125" (3.18 mm)

* Actual orifice diameter of this ruby orifice nozzle is .032".
** Actual orifice diameter of this ruby orifice nozzle is .073".