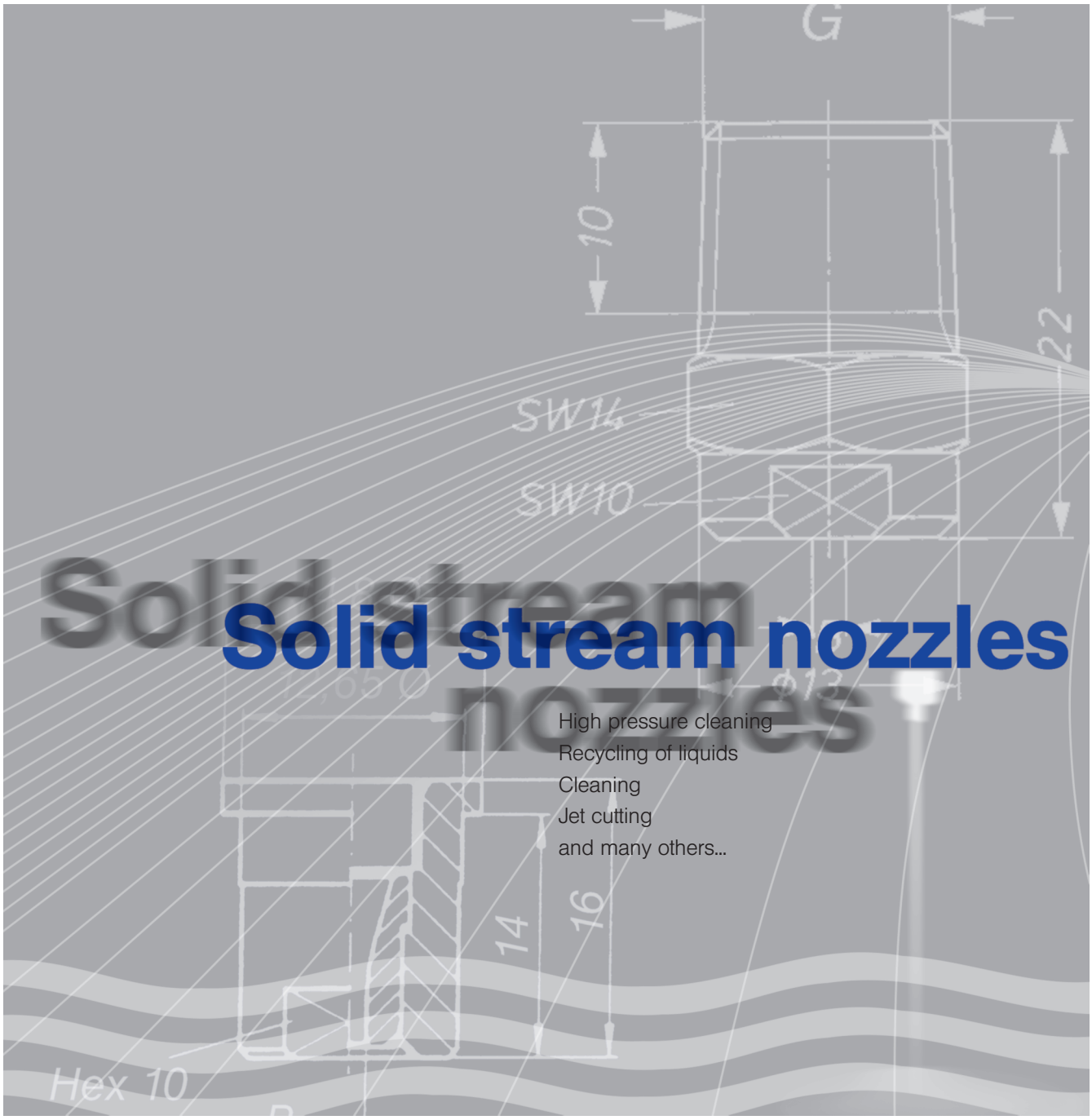
ENGINEERING
YOUR SPRAY SOLUTION

LECHLER



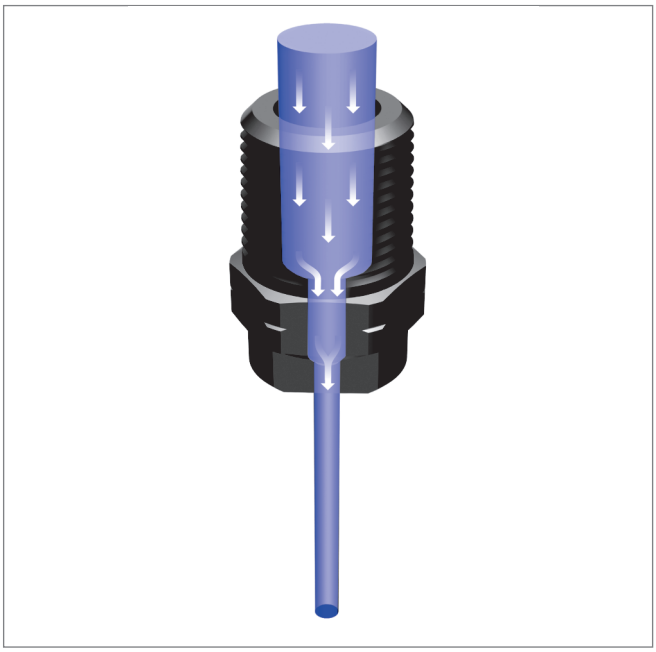
Solid stream nozzles

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

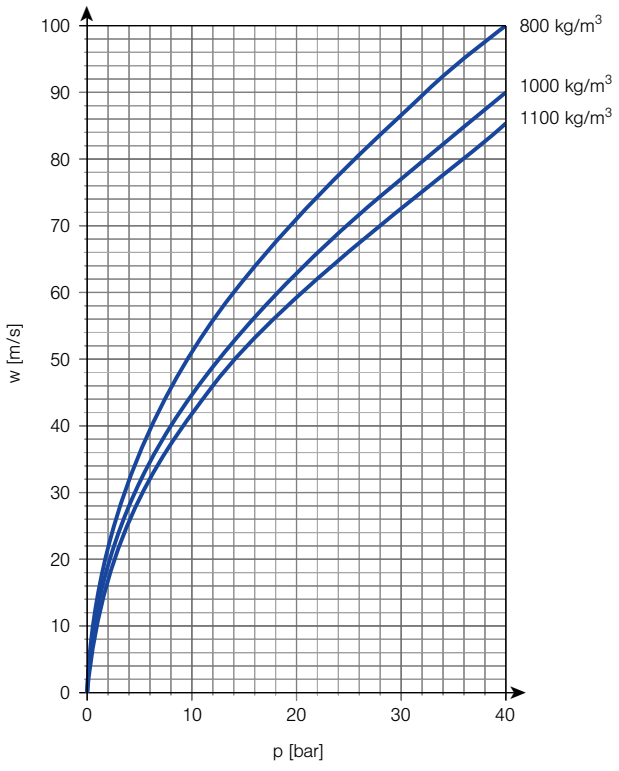
Solid stream nozzles

Thanks to optimum flow geometries, **Lechler solid stream nozzles** produce compact, transparent solid stream jets of defined lengths. The almost turbulence-free liquid inflow achieves excellent efficiency, even without jet stabilizer inserts.
For all cleaning processes, cutting operations and applications requiring perfect, punctiform jet impacts, i.e. whenever the point is to generate concentrated jet power, the precision of Lechler solid stream nozzles enhances productivity and performance of your plant.

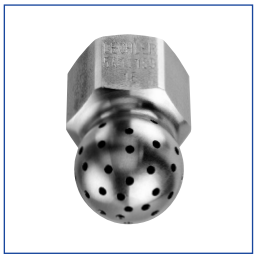
There is a comprehensive range of solid stream nozzles in stainless steel with special hardening or with TC inserts for high-pressure use.
Lechler high-pressure solid stream nozzles excel in closed, stable and powerful solid jets, not even breaking at very high pressures.



Typical exit speed of solid stream nozzles



Solid stream nozzles

Low-pressure nozzles	Series	$\dot{V}$ [l/min] at p = 2 bar	Connection	Application/ Design	Page
	**544**	0.04 – 10.00	1/8 BSPT 1/4 BSPT	Cleaning installations. **Optimized flow technology. Extreme jet power. Concentrated solid stream jet.**	**5.4**
	**540** **541**	18.00 – 118.00	1/2 BSPP	Storage tank cleaning, aerating of bulk goods, recycling of liquids, as well as for accelerating chemical process reactions. **Cluster solid stream nozzle.**	**5.6**

High-pressure nozzles	Series	$\dot{V}$ [l/min] at p = 2 bar	Connection	Application/ Design	Page
	**546** **548** **550**	4.04 – 40.80 (at 80 bar)	1/8 BSPT 1/4 BSPT NPT 1/8 NPT 1/4 Assembly with lock nut	High-pressure cleaning	**5.5**

Solid stream nozzles

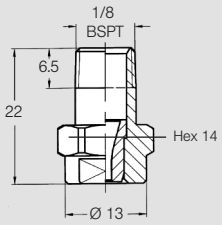
Series 544

Long, closed jet with punctiform impact pattern. Optimized flow conditions. Highest jet power. Concentrated solid stream jet.
Applications:
Cleaning installations.

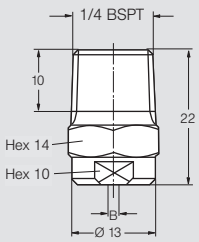
Series 544.110 – 544.400
(Material 16 and 30)

Series 544.480 – 544.800
(Material 16)

Series 544.480 – 544.800
(Material 30)



Weight brass: 14 g



Weight brass: 16 g

Ordering no.					B Ø [mm]	V̇ [l/min]								
Type	Mat. no.		Code			p [bar]								
	16 303 SS	30 Brass	1/8 BSPT	1/4 BSPT		0.5	1.0	2.0	3.0	5.0	10.0	15.0	20.0	30.0
544. 110	○	○	**CA**	**CC**	0.23	0.02	0.03	0.04	0.05	0.06	0.09	0.11	0.13	0.15
544. 160	○	-	**CA**	**CC**	0.33	0.03	0.04	0.06	0.07	0.09	0.13	0.16	0.19	0.23
544. 200	○	○	**CA**	**CC**	0.39	0.05	0.07	0.10	0.12	0.16	0.22	0.27	0.32	0.39
544. 240	○	-	**CA**	**CC**	0.50	0.08	0.11	0.16	0.20	0.25	0.36	0.44	0.51	0.62
544. 280	○	-	**CA**	**CC**	0.63	0.13	0.18	0.25	0.31	0.40	0.56	0.68	0.79	0.97
544. 320	○	○	**CA**	**CC**	0.80	0.20	0.28	0.40	0.49	0.63	0.89	1.10	1.26	1.55
544. 360	○	○	**CA**	**CC**	1.05	0.32	0.45	0.63	0.77	1.00	1.41	1.73	1.99	2.44
544. 400	○	○	**CA**	**CC**	1.30	0.50	0.71	1.00	1.22	1.58	2.24	2.74	3.16	3.87
544. 480	○	○	**CA**	**CC**	1.33	0.80	1.13	1.60	1.96	2.53	3.58	4.38	5.06	6.20
544. 560	○	○	**CA**	**CC**	1.65	1.25	1.77	2.50	3.06	3.95	5.59	6.85	7.91	9.68
544. 640	○	○	**CA**	**CC**	2.09	2.00	2.83	4.00	4.90	6.32	8.94	10.95	12.65	15.49
544. 720	○	○	**CA**	**CC**	2.66	3.15	4.45	6.30	7.72	9.96	14.09	17.25	19.92	24.40
544. 800	○	○	**CA**	**CC**	3.30	5.00	7.07	10.00	12.25	15.81	22.36	27.39	31.62	38.73

B = bore diameter
Can also be used for air or steam (see page 6.9).

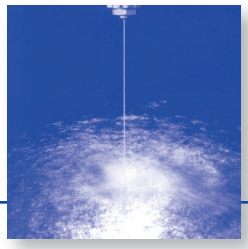
Example for ordering:	Type	+	Material no.	+	Code	=	Ordering no.
	544. 110	+	**16**	+	**CC**	=	**544. 110. 16. CC**

The folded page at the end of the catalogue will give you a survey on the various assembly possibilities.
For complete assembly accessories, please refer to »Accessories«.

Conversion formula for the above series: $\dot{V}_2 = \dot{V}_1 * \sqrt{\frac{p_2}{p_1}}$

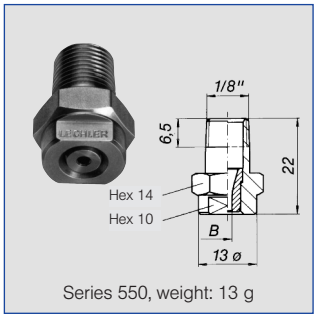
High-pressure solid stream nozzles

Series 546 / 548 / 550

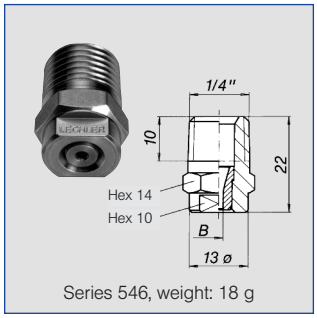


Punctiform, extremely tight, non-dispersing solid stream. Highest impact.
Applications:
High-pressure cleaning, cutting and separating.

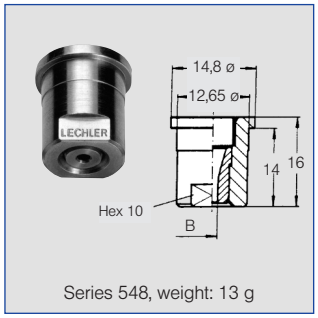
Materials:
Nozzle body: Stainless steel 303 SS
Insert: Hardened steel 1.4034 S



Series 550, weight: 13 g



Series 546, weight: 18 g



Series 548, weight: 13 g

US gal/min. at 40 psi	Nozzle Code: Connection 1/8"	Nozzle Code: Connection 1/4"	Nozzle Code: Retaining nut	Flow rate code	B Ø [mm]	V̇ [l/min] (Tolerance ± 2%) p [bar] 40	60	80	100	150	200	300
02	**550**	**546**	**548**	**360**	0.84	2.86	3.50	4.04	4.52	5.54	6.39	7.83
03	**550**	**546**	**548**	**400**	1.03	4.31	5.28	6.10	6.82	8.35	9.64	11.81
034	**550**	**546**	**548**	**410**	1.07	4.70	5.80	6.70	7.49	9.17	10.59	12.97
035	**550**	**546**	**548**	**420**	1.11	5.06	6.20	7.16	8.00	9.80	11.32	13.86
04	**550**	**546**	**548**	**450**	1.19	5.80	7.10	8.20	9.17	11.23	12.97	15.88
045	**550**	**546**	**548**	**470**	1.26	6.54	8.00	9.25	10.34	12.66	14.62	17.91
05	**550**	**546**	**548**	**480**	1.33	7.29	8.92	10.30	11.52	14.11	16.29	19.95
055	**550**	**546**	**548**	**500**	1.39	7.96	9.75	11.26	12.59	15.42	17.80	21.81
06	**550**	**546**	**548**	**520**	1.46	8.70	10.66	12.31	13.76	16.85	19.46	23.83
08	**550**	**546**	**548**	**570**	1.69	11.48	14.06	16.23	18.15	22.23	25.67	31.44
10	**550**	**546**	**548**	**600**	1.88	14.32	17.54	20.25	22.64	27.73	32.02	39.21
15	**550**	**546**	**548**	**670**	2.30	21.60	26.46	30.55	34.16	41.84	48.31	59.17
20	**550**	**546**	**548**	**720**	2.66	28.85	35.34	40.80	45.62	55.87	64.52	79.02

B = bore diameter

Connection code	Connection	p_{max}* [bar]
A3. 00	BSPT	approx. 700
A3. 07	NPT	approx. 700
A3. 29	Lock nut	approx. 200

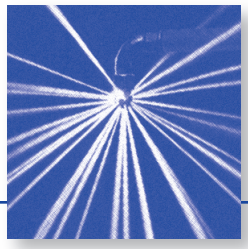
* Only valid for operation at constant pressure

Example for ordering:	Nozzle Code	+	Flow rate code	+	Connection code	=	Ordering no.
	550	+	**360**	+	**A3. 07**	=	**550. 360. A3. 07 (Solid stream; 4.52 l/min. at 100 bar; 1/8" NPT)**

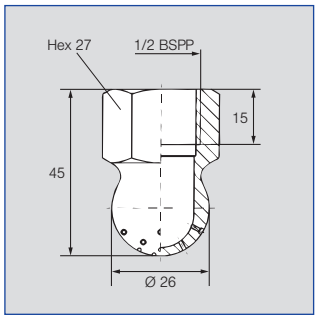
Conversion formula for the above series: $\dot{V}_2 = \dot{V}_1 * \sqrt{\frac{p_2}{p_1}}$

Cluster solid stream nozzle

Series 540 / 541



Several sharp solid jets. Also to use with air or saturated steam (see chapter „Air nozzles“).
Application
Storage tank cleaning, aerating of bulk goods, recycling of liquids, as well as for accelerating chemical process reactions.



Spray angle ∢	Ordering no. Type	E Ø [mm]	V̇ [l/min] p [bar] 0,5	2	5	40 psi [US gal./min]
approx. 240°	**540.909.16**	0.8	9.0	18.0	28.5	5.6
	540.989.16	1.0	14.0	28.0	44.3	8.7
	541.109.16	1.5	28.5	57.0	90.1	17.7
	541.189.16	2.0	45.0	90.0	142.3	27.9
	541.239.16	2.3	59.0	118.0	186.6	36.6

E = narrowest free cross section