

Schlick Series 551-553-556-558 Full-Cone Nozzles

Applications:

- Cleaning
- Condensation
- Cooling
- Fire protection
- Gas conditioning
- Gas cooling
- Humidifying
- Metering
- Mixing
- Process engineering
- Spray drying
- Washing



Schlick full-cone nozzles

- Full-cone nozzles generate spray patterns with full, even cones with the help of various swirl chambers. The cross-section of the spray pattern is circular.
- The nozzles are available with spray angles between 10° and 140°.
- These nozzles are particularly suited to uniform and unbroken spraying of large areas.
- Full-cone nozzles are classified and identified by the flow rate at a pressure differential of 3 bar (nominal flow rate at 3 bar).
- The flow rates lie between 0.5 and 20000 l/min at 3 bar.

Nozzle designs

Model 553

Circular or square spray patterns available
 Standard spray angle: 90° (the standard spray angle is smaller for smaller nozzle sizes, see performance diagram)
 Available: 30°, 45°, 60°
 Insensitive to clogging
 Uniform atomisation even under fluctuating liquid pressure
 Swirl chamber is press fitted



Fig. 03001

Model 556

Circular or square spray patterns available
 Standard spray angle: 120°
 Uniform spraying of large areas possible
 Swirl chamber is press fitted



Fig. 03002

Models 553/556 S

With removable swirl chamber
 Can be cleaned quickly when media with a tendency to clog are used
 Same features as Models 553 and 556

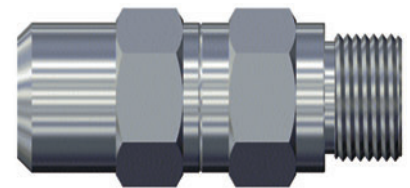


Fig. 03003

Models 553/556 K and Models 553/556 SK

Additional threaded front end for fitting in tanks, flanges or pipes



Fig. 03004

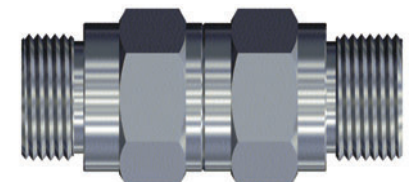


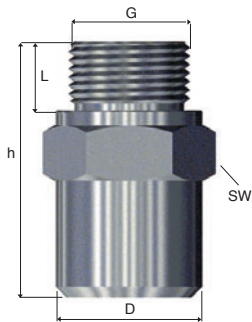
Fig. 03005

Materials

- | | | | |
|----------------------------------|--------------------|------------|---|
| - Brass | - HASTELLOY | - SiSiC | - PTFE |
| - Acid resistant stainless steel | - INCONEL | - PVC | - PVDF |
| - Heat resistant stainless steel | - Platinum-Iridium | - PP | Custom products from other materials available on request |
| - Titanium | - Tantalum | - RCH 1000 | |
| - Grey cast iron | | | |

Dimensions

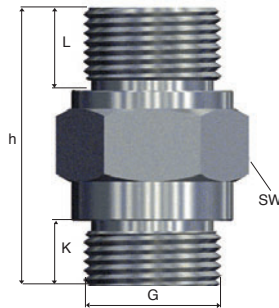
**Model 553
Model 556**



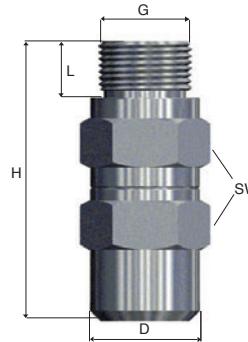
**Models 553 and 556
Size 6 upwards**



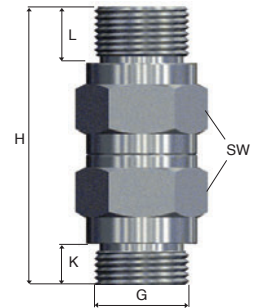
**Model 553 K
Model 556 K**



**Model 553 S
Model 556 S**



**Model 553 SK
Model 556 SK**



Size		0	1	2	3	4	5	6	7	8
Connector G ISO 228		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Thread length	L	8	9	12	14	16	19	20	21	24
Thread length	K	6	6	8.5	12	13	15	13	17	20
Total height	H	30	32	43	53/62*	80	100			
Total height	h	17	18	25	31/38*	54	70	80	95	120
Diameter	D	13	16	19	26	31	40	42	48	60
Spanner size	SW	14	17	20	27	32	41	32	41	46
Weight per unit in kg		0.015	0.020	0.040	0.1	0.25	0.45	0.54	0.825	1.35

Dimensions for Sizes 9-17 available on request

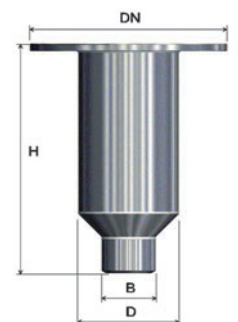
* depends on nominal throughput

Models 553 and 556 with flange

Flange to DIN or ANSI standards available

Screw fittings can be adapted to customer's requirements

Size		13	14	15	16	17
Connector	DN	125.0	150.0	200.0	250.0	300.0
Total height	H	310.0	385.0	520.0	660.0	780.0
Diameter	D	133.0	159.0	216.0	267.0	318.0
Weight per unit in kg		11.5	14.5	27.0	40.0	65.0

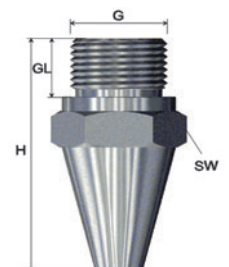


Model 553 with narrow spray angle

Designs S or K available

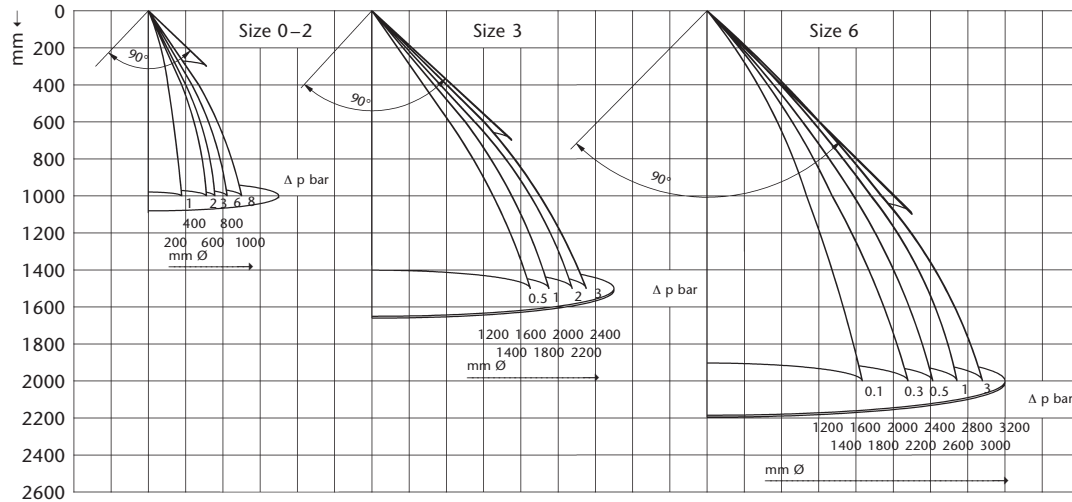
Ask for drawings for sizes above Size 9

Size		1	2	3	4	5	6	7	8
Connector G ISO 228		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Thread length	GL	9	11	14	16	19	21	21	24
Total height	H	22	32	49	64	85	105	126	150
Spanner size	SW	17	20	27	32	41	46	50	60

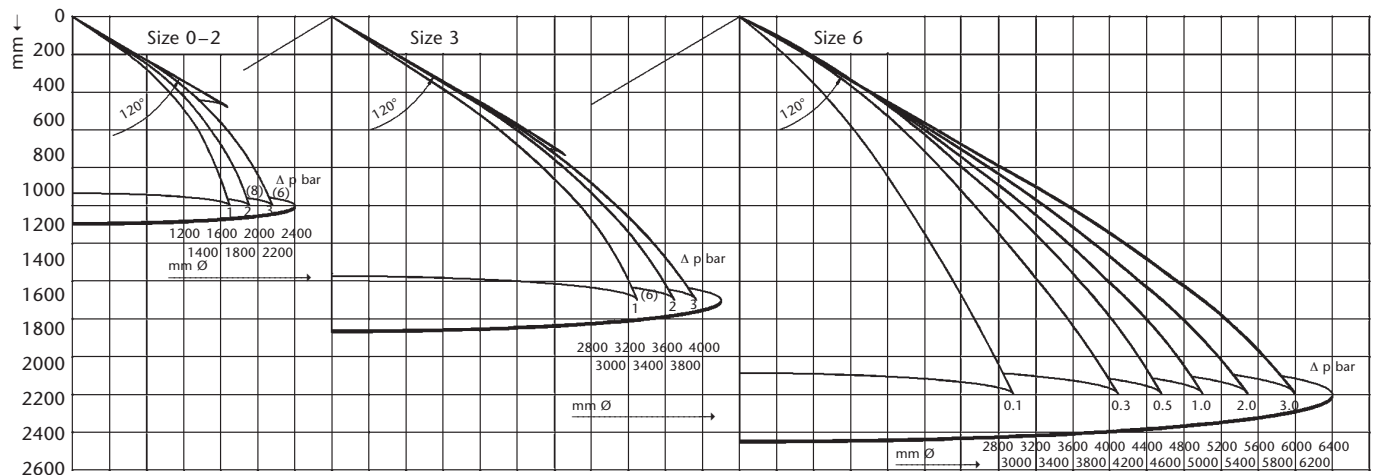


Spray patterns

Model 553 – Full-cone nozzle

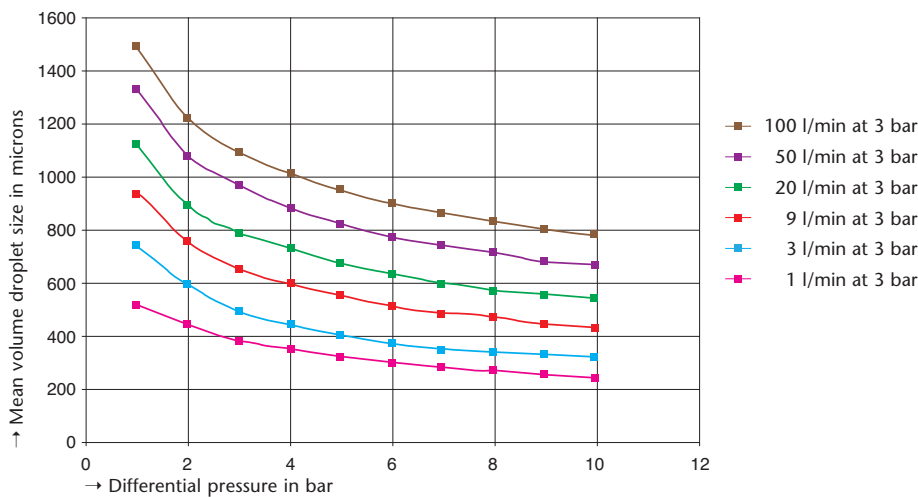


Model 556 – Full-cone nozzle



Droplet size

Mean volume droplet size in microns for full-cone nozzles related to pressure differential



Performance specification

Model 553 (90°) and Model 556 (120°) – Full-cone nozzles

Flow rate capacity related to water at 16 °C.

at a liquid pressure differential of 3 bar.

The nozzles are identified by the nominal capacity in l/min

The table is only valid for standard spray angles.

Size	Thread size ISO 228	Flow rate in l/min at									Standard spray angle	
		0.25 bar	0.5 bar	1 bar	2 bar	3 bar	4 bar	6 bar	8 bar	10 bar	Model 553	Model 556
0	G 1/8					0.5	0.56	0.68	0.78	0.86	45°	120°
						1.0	1.12	1.36	1.57	1.72	55°	
						1.5	1.68	2.04	2.34	2.58	65°	
						2.0	2.24	2.74	3.12	3.45	70°	
						2.5	2.80	3.40	3.90	4.30	75°	
1	G 1/4			1.80	2.45	3.0	3.4	4.1	4.7	5.2	80°	120°
				2.75	3.75	4.5	5.2	6.1	7.0	7.8	85°	
				3.6	4.9	6.0	6.8	8.2	9.4	10.4	90°	
			3.3	4.5	6.2	7.5	8.5	10.3	11.0	13.0	90°	
			4.0	5.5	7.5	9.0	10.5	12.3	14.0	15.6	90°	
2	G 3/8		4.0	5.5	7.5	9.0	10.5	12.3	14.0	15.6	90°	120°
		3.8	5.2	7.2	9.9	12.0	13.6	16.5	18.8	20.8		
		4.8	6.6	9.0	12.3	15.0	16.8	20.4	23.4	25.8		
		6.4	8.8	12.0	16.6	20.0	22.4	27.4	31.2	34.6		
3	G 1/2	6.4	8.8	12.0	16.6	20.0	22.4	27.4	31.2	34.6	90°	120°
		8.0	11.0	15.0	20.0	25.0	28.0	34.0	39.0	43.0		
		9.6	13.2	18.2	24.5	30.0	34.0	41.0	47.0	52.0		
		11.2	15.4	21.1	29.0	35.0	40.0	48.0	54.6	60.7		
		12.8	17.6	24.2	33.0	40.0	45.5	55.0	62.5	69.5		
4	G 3/4	16	22	30	41	50	56	68	78	86	90°	120°
		19	26	36	49	60	68	82	94	104		
		24	33	45	62	75	85	103	117	130		
5	G 1	32	44	60	82	100	112	136	156	172	90°	120°
		40	55	75	103	125	142	171	195	216		
6	G 1 1/4	48	66	90	124	150	170	205	234	260	90°	120°
		56	77	106	145	175	200	240	274	303		
7	G 1 1/2	64	88	121	166	200	224	274	312	346	90°	120°
		80	110	152	208	250	284	342	390	433		
8	G 2	96	132	182	245	300	340	410	470	520	90°	120°
		128	176	242	330	400	455	550	625	695		
9	G 2 1/2	160	220	302	415	500	568	685	780	865	90°	120°
		192	264	362	495	600	680	825	940	1040		
10	G 3	240	330	452	620	750	850	1030	1170	1300	90°	120°
		288	395	545	745	900	1050	1230	1400	1560		
11	G 4	384	525	725	995	1200	1365	1650	1880	2080	90°	120°
		480	660	900	1240	1500	1700	2050	2340	2600		
		560	770	1060	1450	1750	2000	2400	2740	3030		
12	G 5	640	880	1210	1660	2000	2240	2740	3120	3460	90°	120°
		800	1100	1520	2080	2500	2840	3420	3900	4330		
13	DN 125	800	1100	1520	2080	2500	2840	3420	3900	4330	90°	120°
		960	1320	1820	2450	3000	3400	4100	4700	5200		
14	DN 150	1120	1540	2110	2900	3500	4000	4800	5460	6070	90°	120°
		1280	1760	2420	3300	4000	4550	5500	6250	6950		
15	DN 200	1600	2200	3020	4150	5000	5680	6850	7800	8650	90°	120°
		1920	2640	3620	4950	6000	6800	8250	9400	10400		
		2400	3300	4520	6200	7500	8500	10300	11700	13000		
16	DN 250	3200	4400	6040	8300	10000	11360	13700	15600	17300	90°	120°
		3840	5250	7250	9950	12000	13650	16500	18800	20800		
17	DN 300	4500	6150	8450	11600	14000	15900	19200	21800	24200	90°	120°
		5440	7500	10300	14100	17000	19300	23300	26600	29400		

Performance specification

Model 553 with 60° spray angle – Full-cone nozzles

Size	Thread size G ISO 228	Flow rate in l/min at										
		0.5 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	4 bar	6 bar	8 bar	10 bar	
1	1/4		1.38	1.70	1.96	2.19	2.40	2.77	3.40	3.92	4.38	
			1.80	2.20	2.53	2.83	3.10	3.58	4.40	5.05	5.65	
			2.60	3.18	3.67	4.10	4.50	5.20	6.35	7.35	8.20	
			2.04	2.89	3.54	4.09	4.57	5.00	5.78	7.08	8.17	9.14
			2.45	3.46	4.25	4.90	5.46	6.00	6.90	8.50	9.80	10.90
2	3/8	2.45	3.46	4.25	4.90	5.46	6.00	6.90	8.50	9.80	10.90	
		3.25	4.60	5.65	6.55	7.30	8.00	9.25	11.30	13.00	14.60	
		4.10	5.75	7.00	8.15	9.10	10.00	11.60	14.30	16.40	18.30	
		5.40	7.60	9.30	10.80	12.00	13.20	15.20	18.70	21.60	24.00	
3	1/2	5.40	7.60	9.30	10.80	12.00	13.20	15.20	18.70	21.60	24.00	
		6.80	9.60	11.80	13.70	15.30	16.70	19.30	23.70	27.40	30.50	
		8.20	11.50	14.00	16.30	18.20	20.00	23.20	28.20	32.60	36.50	
		9.50	13.40	16.40	19.00	21.20	23.20	26.80	32.80	37.80	42.30	
		10.80	15.30	18.70	21.60	24.20	26.50	30.60	37.50	43.30	48.40	
4	3/4	13.60	19.20	23.50	27.20	30.40	33.30	38.40	47.00	54.40	60.60	
		16.30	23.10	28.30	32.70	36.50	40.00	46.20	56.50	65.40	73.00	
		20.40	29.00	35.40	41.00	45.70	50.00	57.80	71.00	82.00	91.50	
5	1	27.00	38.00	46.50	54.00	60.00	66.00	76.00	93.00	107.00	120.00	
		34.00	48.00	58.50	68.00	76.00	83.00	96.00	117.00	135.00	151.00	
6	1 1/4	41.00	57.50	70.50	81.50	91.50	100.00	115.00	141.00	164.00	183.00	
		54.00	76.50	94.00	108.00	121.00	133.00	153.00	188.00	216.00	243.00	
7	1 1/2	68.00	96.00	118.00	136.00	152.00	167.00	193.00	236.00	272.00	305.00	
		81.00	115.00	141.00	163.00	182.00	200.00	231.00	283.00	326.00	365.00	
8	2	109.00	154.00	189.00	218.00	244.00	267.00	308.00	378.00	435.00	487.00	
		120.00	175.00	210.00	245.00	270.00	300.00	350.00	450.00	500.00	540.00	

Model 553 with 45° spray angle – Full-cone nozzles

Size	Thread size G ISO 228	Flow rate in l/min at										
		0.5 bar	1 bar	1.5 bar	2 bar	2.5 bar	3 bar	4 bar	6 bar	8 bar	10 bar	
1	1/4		0.80	0.98	1.13	1.26	1.36	1.60	1.95	2.26	2.52	
			1.15	1.41	1.63	1.82	2.00	2.31	2.83	3.27	3.65	
			1.44	1.76	2.04	2.28	2.50	2.88	3.53	4.07	4.55	
			1.26	1.79	2.19	2.53	2.83	3.10	3.58	4.38	5.06	5.66
			1.51	2.13	2.60	3.00	3.37	3.70	4.25	5.25	6.00	6.75
2	3/8	1.51	2.13	2.60	3.00	3.37	3.70	4.25	5.25	6.00	6.75	
		2.04	2.90	3.54	4.10	4.55	5.00	5.75	7.05	8.15	9.15	
		2.53	3.58	4.30	5.05	5.65	6.20	7.15	8.75	10.00	11.30	
		3.38	4.80	5.85	6.78	7.55	8.30	9.60	11.80	13.50	15.10	
3	1/2	3.38	4.80	5.85	6.78	7.55	8.30	9.60	11.80	13.50	15.10	
		4.30	6.05	7.40	8.55	9.60	10.50	12.10	14.80	17.10	19.20	
		5.10	7.25	8.85	10.20	11.40	12.50	14.50	17.70	20.40	22.90	
		5.90	8.35	10.20	11.80	13.20	14.50	16.70	20.50	23.70	26.40	
		6.75	9.50	11.70	13.50	15.10	16.50	19.10	23.40	27.00	30.20	
4	3/4	8.60	12.10	14.80	17.20	19.10	21.00	24.20	29.70	34.30	38.40	
		10.20	14.40	17.70	20.40	22.80	25.00	28.90	35.40	40.80	45.50	
		12.60	17.90	21.90	25.30	28.30	31.00	35.80	43.80	50.60	56.50	
5	1	16.70	23.60	29.00	33.50	37.50	41.00	47.50	58.00	67.00	75.00	
		21.20	30.00	36.80	42.50	47.50	52.00	60.00	73.50	85.00	95.00	
6	1 1/4	25.30	35.80	43.80	50.50	56.50	62.00	71.50	87.50	102.00	113.00	
		28.80	42.00	51.50	59.50	66.50	73.00	84.20	107.00	123.00	138.00	
7	1 1/2	34.00	48.00	58.50	68.00	76.00	83.00	96.00	117.00	135.00	151.00	
		42.40	60.00	73.50	85.00	95.00	104.00	120.00	147.00	170.00	190.00	
8	2	51.00	72.00	88.50	102.00	114.00	125.00	144.00	177.00	204.00	228.00	
		67.00	95.00	117.00	135.00	150.00	165.00	190.00	234.00	269.00	300.00	

Model 553 with 30° spray angle on request

Custom versions

Model 551 – Full-cone nozzle

With 140° spray angle; useable for high pressures

Short length

Only available with circular spray angle

Flow rates and dimensions available on request

Fig. 03006



Model 558 – Full-cone nozzle

With 5° to 25° spray angle

Short length

Only available with circular spray angle

Flow rates and dimensions available on request

Fig. 03007



Model 553/556 – Full-cone nozzle

For welded installation

Fig. 03008

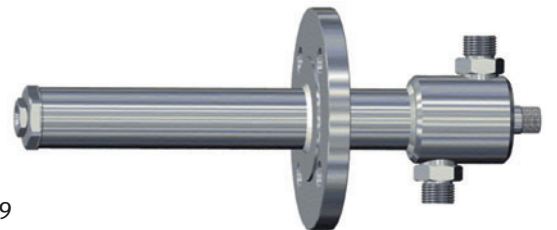


Custom designs/specialities

Model 1553/556 – Full-cone nozzle

With heating system and flanged mounting

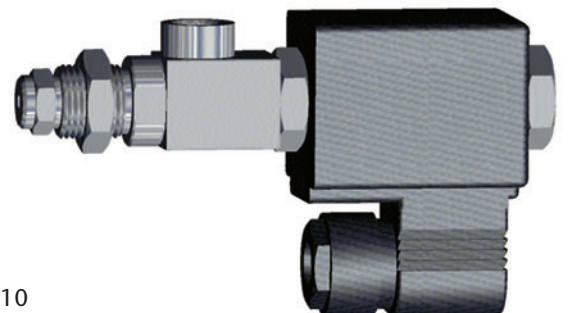
Fig. 03009



Model 553/556 – Full-cone nozzle

With solenoid

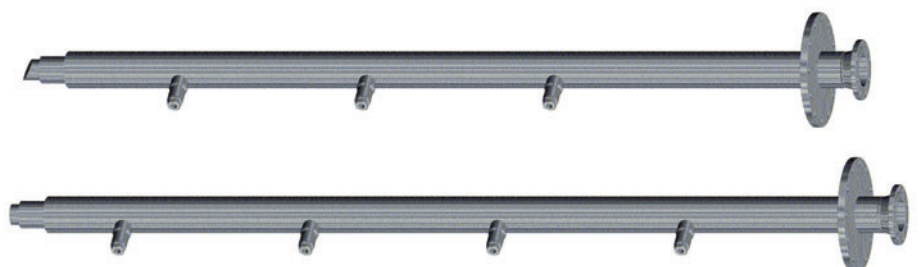
Fig. 03010



Insertion pipe

With full-cone nozzle Model 553

Fig. 03011



Service spectrum

Pilot test laboratory

Before any new spray nozzles are used we subject them to comprehensive trials in our own test laboratory – if need be to your operational parameters. During these tests, we precisely determine droplet size, velocities and flow densities with our modern DUAL PDA laser-measuring equipment.



Test nozzles

Schlick spray nozzles are world renowned for highest precision. We can offer you the best and most lasting solution to your requirements. And, if you want, we can supply you with test nozzles in advance – just contact us.

Engineering

Take advantage of our comprehensive expertise – from design to installation – the conception of new products or

the optimisation of existing plant. We would be glad to help you improve the success of your operation.

Repair service

As well as competent advice and its inception, you can profit from an efficient after-sales service that guarantees long-term supply of all products. We carry out both repair and conversion of Schlick spray nozzles, and in emergency, we can supply spare parts quickly and reliably.

Onsite service

If required we will investigate and develop an optimal solution to suit individual requirements onsite. We will advise you and give you support during installation and initial start-up of the plant. A further plus is the help available from our worldwide technical field service network.

Custom products

As one of the leading spray nozzle manufacturers in Europe, we can offer both high quality standard solutions and are in the position of developing customised products for individual tasks as fast as possible, even for small production runs.



Documentation to the customer's requirements

Reliability and quality are the basis for successful cooperation with our international customers. This applies both to our products and to our service. If you wish, we will supply you with all necessary documentation such as technical handbooks for the nozzles (drawings, flow diagrams, installation and operating instructions) together with factory and material specifications.



All specifications are subject to change (flow rates/dimensions).

The performance/flow rate specifications quoted are descriptive or product identities and can vary by up to ± 5 percent on delivery.



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