



Flat fan nozzle tips

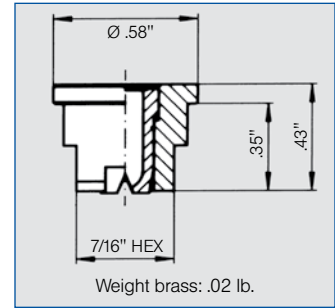
Series 652



Precision standard design axial flat fan nozzle tips. Stable spray angles at a wide range of pressures. Uniform parabolic distribution. Most capacities use Lechler's insert design. For use with nozzle base and cap.

Applications:

- Spray cleaning
- Lubricating
- Board and web rinsing
- Parts washing



Spray angle	Type	Ordering no.				Equivalent Orifice diam. (in.)	Free passage (in.)	Flow Rate (Gallons Per Minute)							Spray Coverage @ 30 psi	
		Material no.						10 psi	20 psi	liters per minute 2 bar	40 psi	60 psi	80 psi	100 psi	H=10"	H=20"
		303 SS 16	316 SS 17 ^h	Brass 30	PVDF 5E											
20°	652. 301	○	○	○	○	.028	.024	.05	.07	.32	.10	.12	.14	.16	3	5
	652. 361	○	○	○	○	.039	.032	.10	.14	.63	.20	.24	.28	.31	3	5
	652. 441	○	○	○	○	.053	.043	.19	.27	1.3	.39	.48	.55	.61	3	5
	652. 481	○	○	○	○	.059	.047	.25	.35	1.6	.50	.61	.70	.78	3	5
	652. 511	-	-	-	○	.065	.055	.29	.42	1.9	.59	.72	.83	.93	3	5
30°	652. 302	○	○	○	○	.024	.020	.05	.07	.32	.10	.12	.14	.16	5	9
	652. 362	○	○	○	○	.039	.028	.10	.14	.63	.20	.24	.28	.31	5	9
	652. 402	○	○	○	○	.047	.035	.16	.22	1.0	.31	.38	.44	.49	5	9
	652. 442	○	○	○	○	.053	.039	.19	.27	1.3	.39	.48	.55	.61	5	9
	652. 482	○	○	○	○	.059	.043	.25	.35	1.6	.50	.61	.70	.78	5	9
	652. 562	○	○	○	○	.079	.059	.39	.55	2.5	.78	.95	1.1	1.2	5	9
	652. 602	○	○	○	-	.087	.067	.49	.69	3.2	.98	1.2	1.4	1.5	5	9
	652. 642	○	○	○	-	.099	.071	.62	.88	4.0	1.2	1.5	1.8	2.0	5	9
	652. 722	○	○	○	-	.118	.095	.98	1.4	6.3	2.0	2.4	2.8	3.1	5	9
	652. 762	○	○	○	-	.138	.106	1.2	1.8	8.0	2.5	3.0	3.5	3.9	5	9
652. 802	○	○	○	-	.158	.122	1.6	2.2	10.0	3.1	3.8	4.4	4.9	5	9	
45°	652. 303	○	○	○	-	.028	.020	.05	.07	.32	.10	.12	.14	.16	7	13
	652. 363	○	○	○	○	.039	.024	.10	.14	.63	.20	.24	.28	.31	7	13
	652. 403	○	○	○	-	.047	.035	.16	.22	1.0	.31	.38	.44	.49	7	13
	652. 443	○	○	○	○	.053	.039	.19	.27	1.3	.39	.48	.55	.61	7	13
	652. 483	○	○	○	○	.059	.043	.25	.35	1.6	.50	.61	.70	.78	7	13
	652. 513	○	○	○	-	.065	.047	.29	.42	1.9	.59	.72	.83	.93	7	13
	652. 563	○	○	○	○	.079	.055	.39	.55	2.5	.78	.95	1.1	1.2	7	13
	652. 603	○	○	○	-	.087	.067	.49	.69	3.2	.98	1.2	1.4	1.5	7	13
	652. 643	○	○	○	○	.099	.071	.62	.88	4.0	1.2	1.5	1.8	2.0	7	14
	652. 723	○	○	○	-	.118	.095	.98	1.4	6.3	2.0	2.4	2.8	3.1	7	14
652. 763	○	○	○	-	.138	.102	1.2	1.8	8.0	2.5	3.0	3.5	3.9	7	14	
652. 803	○	○	○	-	.158	.118	1.6	2.2	10.0	3.1	3.8	4.4	4.9	8	14	
60°	652. 304	○	○	○	○	.028	.016	.05	.07	.32	.10	.12	.14	.16	11	21
	652. 334	○	○	○	○	.035	.020	.07	.10	.45	.14	.17	.20	.22	11	21
	652. 364	○	○	○	○	.039	.024	.10	.14	.63	.20	.24	.28	.31	11	21
	652. 404	○	○	○	○	.047	.032	.16	.22	1.0	.31	.38	.44	.49	11	21
	652. 444	○	○	○	○	.053	.035	.19	.27	1.3	.39	.48	.55	.61	11	21
	652. 484	○	○	○	○	.059	.039	.25	.35	1.6	.50	.61	.70	.78	11	21
	652. 514	○	○	○	○	.065	.043	.29	.42	1.9	.59	.72	.83	.93	11	21
	652. 564	○	○	○	○	.079	.051	.39	.55	2.5	.78	.95	1.1	1.2	11	21
	652. 604	○	○	○	○	.087	.059	.49	.69	3.2	.98	1.2	1.4	1.5	11	20
	652. 644	○	○	○	○	.099	.063	.62	.88	4.0	1.2	1.5	1.8	2.0	11	20
	652. 674	○	○	○	○	.106	.071	.74	1.0	4.8	1.5	1.8	2.1	2.3	11	20
	652. 724	○	○	○	○	.118	.083	.98	1.4	6.3	2.0	2.4	2.8	3.1	11	20
	652. 764	○	○	○	-	.138	.091	1.2	1.8	8.0	2.5	3.0	3.5	3.9	11	20
	652. 804	○	○	○	○	.158	.102	1.6	2.2	10.0	3.1	3.8	4.4	4.9	11	20
	652. 844	○	-	○	○	.177	.118	1.9	2.7	12.5	3.9	4.8	5.5	6.1	11	20
652. 884	○	-	○	-	.197	.134	2.5	3.5	16.0	5.0	6.1	7.0	7.8	11	20	
652. 944	○	○	○	-	.225	.173	3.5	4.9	22	7.0	8.5	9.8	11.0	11	20	

Continued on next page.

Example Type + Material no. = Ordering no.
 for ordering: 652. 403 + 30 = 652. 403. 30

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

1) We reserve the right to deliver material 316 SS or 316L SS, if we show the material code 17.





Flat fan nozzle tips

Series 652

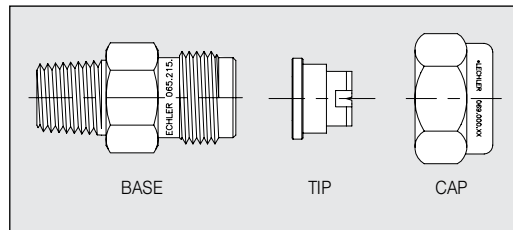


Spray angle	Ordering no.	Material no.				Equivalent Orifice diam. (in.)	Free passage (in.)	Flow Rate (Gallons Per Minute)						Spray Coverage @ 30 psi		
		Type						10 psi	20 psi	liters per minute 2 bar	40 psi	60 psi	80 psi	100 psi	H=10"	H=20"
		303 SS 16	316 SS 17 ¹⁾	Brass 30	P/PDF 5E											
75°	652. 145	○	-	○	-	.008	.005	.008	.011	.05	.016	.019	.022	.025	11	22
	652. 165	○	-	○	-	.008	.003	.011	.015	.07	.022	.027	.031	.034	11	22
	652. 185	○	-	○	-	.008	.006	.012	.018	.08	.025	.030	.035	.039	11	22
	652. 215	○	-	○	-	.016	.008	.017	.024	.11	.034	.042	.048	.054	11	22
	652. 245	○	-	○	-	.020	.012	.025	.035	.16	.05	.06	.07	.08	11	22
	652. 275	○	-	○	-	.024	.012	.034	.05	.22	.07	.08	.10	.11	11	22
90°	652. 216	○	-	○	-	.016	.008	.017	.024	.11	.034	.042	.048	.054	15	30
	652. 276	○	-	○	-	.024	.012	.034	.05	.22	.07	.08	.10	.11	18	31
	652. 306	○	○	○	○	.028	.016	.05	.07	.32	.10	.12	.14	.16	18	31
	652. 336	○	○	○	○	.035	.020	.07	.10	.45	.14	.17	.20	.22	18	31
	652. 366	○	○	○	○	.039	.020	.10	.14	.63	.20	.24	.28	.31	18	31
	652. 406	○	○	○	○	.047	.028	.16	.22	1.0	.31	.38	.44	.49	18	31
	652. 446	○	○	○	○	.053	.032	.19	.27	1.3	.39	.48	.55	.61	18	31
	652. 486	○	○	○	○	.059	.032	.25	.35	1.6	.50	.61	.70	.78	18	31
	652. 516	○	○	○	○	.065	.035	.29	.42	1.9	.59	.72	.83	.93	18	31
	652. 566	○	○	○	○	.079	.043	.39	.55	2.5	.78	.95	1.1	1.2	18	32
	652. 606	○	○	○	○	.087	.047	.49	.69	3.2	.98	1.2	1.4	1.5	18	32
	652. 646	○	○	○	○	.099	.051	.62	.88	4.0	1.2	1.5	1.8	2.0	18	32
	652. 676	○	○	○	○	.106	.055	.74	1.0	4.8	1.5	1.8	2.1	2.3	18	32
	652. 726	○	○	○	○	.118	.067	.98	1.4	6.3	2.0	2.4	2.8	3.1	18	32
	652. 766	○	○	○	-	.138	.075	1.2	1.8	8.0	2.5	3.0	3.5	3.9	18	32
	652. 806	○	○	○	○	.158	.095	1.6	2.2	10.0	3.1	3.8	4.4	4.9	18	32
652. 846	-	-	○	○	.177	.095	1.9	2.7	12.5	3.9	4.8	5.5	6.1	18	32	
652. 886	○	-	○	○	.197	.122	2.5	3.5	16.0	5.0	6.1	7.0	7.8	18	33	
120°	652. 187	○	-	○	-	.014	.008	.012	.018	.08	.025	.030	.035	.039	25	48
	652. 217	○	-	○	-	.016	.008	.017	.024	.11	.034	.042	.048	.054	26	48
	652. 247	○	-	○	-	.020	.008	.025	.035	.16	.05	.06	.07	.08	26	49
	652. 277	○	-	○	-	.024	.012	.034	.05	.22	.07	.08	.10	.11	26	49
	652. 307	○	-	○	○	.028	.012	.05	.07	.32	.10	.12	.14	.16	26	50
	652. 337	○	○	○	○	.035	.016	.07	.10	.45	.14	.17	.20	.22	26	50
	652. 367	○	○	○	○	.039	.020	.10	.14	.63	.20	.24	.28	.31	26	50
	652. 407	○	○	○	○	.047	.024	.16	.22	1.0	.31	.38	.44	.49	26	50
	652. 447	○	○	○	○	.053	.024	.19	.27	1.3	.39	.48	.55	.61	26	50
	652. 487	○	○	○	○	.059	.024	.25	.35	1.6	.50	.61	.70	.78	26	50
	652. 517	○	○	○	○	.065	.035	.29	.42	1.9	.59	.72	.83	.93	26	50
	652. 567	○	○	○	○	.079	.035	.39	.55	2.5	.78	.95	1.1	1.2	26	50
	652. 607	○	○	○	○	.087	.043	.49	.69	3.2	.98	1.2	1.4	1.5	27	51
	652. 647	○	○	○	-	.099	.051	.62	.88	4.0	1.2	1.5	1.8	2.0	27	51
	652. 677	○	○	○	-	.106	.055	.74	1.0	4.8	1.5	1.8	2.1	2.3	27	51
	652. 727	○	○	○	○	.118	.063	.98	1.4	6.3	2.0	2.4	2.8	3.1	27	52
	652. 767	○	○	○	-	.138	.067	1.2	1.8	8.0	2.5	3.0	3.5	3.9	28	52
	652. 807	○	○	○	-	.158	.079	1.6	2.2	10.0	3.1	3.8	4.4	4.9	28	52
652. 847	-	-	-	○	.177	.091	1.9	2.7	12.5	3.9	4.8	5.5	6.1	31	57	
652. 887	-	-	-	○	.197	.102	2.5	3.5	16.0	5.0	6.1	7.0	7.8	31	57	

Flat fan

Bases and Caps for Mounting

Inlet NPT Male	Outlet Male	Part No.	Standard Materials: 17 316 SS 30 Brass
1/4"	11/16 x 16	065. 215. XX. 10	
3/8"	11/16 x 16	065. 211. XX. 10	
1/4"	3/8 BSPP	065. 215. XX. 11	
3/8"	3/8 BSPP	065. 215. XX. 12	
Caps			Other materials available. See Accessories beginning on page 127.
To fit 11/16x16		069. 000. XX. 00	
To fit 3/8 BSPP		065. 200. XX. 00	



Example Type + Material no. = Ordering no.
for ordering: 652. 407 + 30 = 652. 407. 30

1) We reserve the right to deliver material 316 SS or 316L SS, if we show the material code 17.

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.)





Flat fan nozzle tips for conveyor lubrication

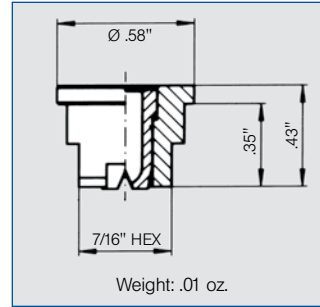
Series 652. xxx. 8H. 03



Especially low flow rates. Parabolic liquid distribution

Applications:

- Belt lubrication
- Spraying of food products
- Oiling of metal sheets



Operating pressure range:
14.5 to 72.5 psi

Recommended operating pressure:
45 psi

Viscosity:
The nozzles can be operated with viscous media, e.g. transmission fluid (max. approx. 200 mPas). However the spray angle decreases.

Spray angle	Ordering no.		Color	Free Passage (in.)	Flow Rate (Gallons Per Minute)					
	Type	Mat. no.			15 psi	liters per minute	45 psi	75 psi		
		303 SS							POM/303 SS	POM
		16	8H.03*	56.03						
75°	652. 145	○	○	○	green	.012	.011	.050	.016	.021
	652. 165	○	○	○	black	.013	.013	.070	.023	.030
	652. 185	○	○	○	red	.008	.016	.080	.026	.034
	652. 215	○	○	○	blue	.008	.021	.110	.036	.050
	652. 245	○	○	○	orange	.012	.032	.160	.050	.070
652.275	○	○	○	brown	.012	.042	.220	.070	.090	
120°	652. 187	○	○	○	grey	.008	.060	.080	.026	.034
	652. 247	○	○	○	black	.008	.120	.160	.050	.070
	652. 277	○	○	○	black	.012	.160	.220	.070	.090

Return valve with gauze filter:

- Prevents dripping and saves medium
- Size of filter mesh: .003 in. (200 mesh)
- **095.016.53.11.00**
Opening pressure: approx. 7 psi
Closing pressure: approx. 4 psi
- **095.016.53.14.63**
Opening pressure: approx. 40 psi
Closing pressure: approx. 23 psi

* Housing POM, nozzle insert 303 SS

Flat fan

Pos.	Name	Ordering no.	Material	Dimensions (in.)			Hex/Flats (in.)
				L	L1	Hex/Flats	
1	Gauze filter with return valve	095. 016. 53. 11. 00	PP	.83	.06	-	.003
		095. 016. 53. 14. 63	PP	.83	.06	-	.003
2	Gasket	065. 240. 55	PTFE	-	-	-	-
		065. 240. 72	EWP 210	-	-	-	-
3	Nozzle	Ordering no. see flow tables	303 SS	11	9	.39	-
			POM/303 SS*	12	10	.32	-
4	Cap nut	065. 200. 16	303 SS	13	10	.32	-
		065. 200. 56	POM	14.5	11.5	.87	-

* Housing POM, Nozzle insert 303 SS
** Size of mesh

