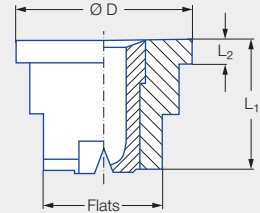
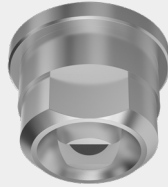


# Low pressure flat fan nozzles for retaining nut Series 652



## Features:

- Uniform, parabolic liquid distribution
- Stable spray angle
- Assembly with retaining nut



## Applications:

- Spray cleaning
- Surface cleaning
- Filter cleaning
- Coating processes
- Belt cleaning
- Lubrication processes

Series 652

Code	Dimensions [mm]				Weight [g] Brass
	L <sub>1</sub>	L <sub>2</sub>	Ø D	Flats	
Assembly with retaining nut 3/8 BSPP	11.0	2.0	14.8	10	9.0

Spray angle	Ordering no.					Equivalent bore diameter A [mm]	Narrowest free cross section Ø [mm]	V̇ water [l/min]						Spray width B [mm] (at p = 5 bar)	
	Type	Mat. no.						p [bar]						H = 250 [mm]	H = 500 [mm]
		16	17'	30	5E			0.5	1.0	2.0	3.0	5.0	10.0		
20°	652.301	●	●	●	●	0.70	0.60	0.16*	0.23*	0.32	0.40	<b>0.51</b>	0.72	85	160
	652.361	●	●	●	●	1.00	0.80	0.32*	0.45*	0.63	0.77	<b>1.00</b>	1.41	85	160
	652.441	●	●	●	●	1.35	1.10	0.63*	0.89	1.25	1.53	<b>1.98</b>	2.80	85	160
	652.481	●	●	●	●	1.50	1.20	0.80*	1.13	1.60	1.96	<b>2.53</b>	3.58	85	160
30°	652.302	●	●	●	●	0.60	0.50	0.16*	0.23*	0.32	0.40	<b>0.51</b>	0.72	120	220
	652.362	●	●	●	●	1.00	0.70	0.32*	0.45*	0.63	0.77	<b>1.00</b>	1.41	120	220
	652.402	●	●	●	●	1.20	0.90	0.50*	0.71	1.00	1.22	<b>1.58</b>	2.23	120	230
	652.482	●	●	●	●	1.50	1.10	0.80*	1.13	1.60	1.96	<b>2.53</b>	3.58	130	230
	652.562	●	●	●	●	2.00	1.50	1.25	1.77	2.50	3.06	<b>3.95</b>	5.59	130	240
	652.642	●	●	●		2.50	1.80	2.00	2.83	4.00	4.90	<b>6.33</b>	8.95	140	250
	652.722	●	●	●		3.00	2.40	3.15	4.45	6.30	7.71	<b>9.96</b>	14.09	140	260
	652.762	●	●	●		3.50	2.70	4.00	5.66	8.00	9.80	<b>12.65</b>	17.89	140	260
652.802	●	●	●		4.00	3.10	5.00	7.07	10.00	12.25	<b>15.81</b>	22.36	140	260	
45°	652.303	●	●	●		0.70	0.50	0.16*	0.23*	0.32	0.40	<b>0.51</b>	0.72	170	330
	652.363	●	●	●	●	1.00	0.60	0.32*	0.45*	0.63	0.77	<b>1.00</b>	1.41	190	350
	652.403	●	●	●	●	1.20	0.90	0.50*	0.71	1.00	1.22	<b>1.58</b>	2.23	200	370
	652.483	●	●	●	●	1.50	1.10	0.80*	1.13	1.60	1.96	<b>2.53</b>	3.58	200	390
	652.563	●	●	●	●	2.00	1.40	1.25	1.77	2.50	3.06	<b>3.95</b>	5.59	210	410
	652.643	●	●	●	●	2.50	1.80	2.00	2.83	4.00	4.90	<b>6.33</b>	8.95	220	410
	652.723	●	●	●		3.00	2.40	3.15	4.45	6.30	7.71	<b>9.96</b>	14.09	220	420
	652.763	●	●	●		3.50	2.60	4.00	5.66	8.00	9.80	<b>12.65</b>	17.89	220	420
652.803	●	●	●		4.00	3.00	5.00	7.07	10.00	12.25	<b>15.81</b>	22.36	220	420	

Spray angle	Ordering no.					Equivalent bore diameter A [mm]	Narrowest free cross section Ø [mm]	V̇ water [l/min]						Spray width B [mm] (at p = 5 bar)	
	Type	Mat. no.						p [bar]						H = 250 [mm]	H = 500 [mm]
		16	17 <sup>1</sup>	30	5E			0.5	1.0	2.0	3.0	5.0	10.0		
		Stainless steel 303	Stainless steel 316Ti/ Stainless steel 316L	Brass	PVDF										
60°	652.304	●	●	●	●	0.70	0.40	0.16*	0.23*	0.32	0.40	<b>0.51</b>	0.72	260	480
	652.334	●	●	●	●	0.90	0.50	0.22*	0.32*	0.45	0.55	<b>0.71</b>	1.00	260	490
	652.364	●	●	●	●	1.00	0.60	0.32*	0.45*	0.63	0.77	<b>1.00</b>	1.41	260	500
	652.404	●	●	●	●	1.20	0.80	0.50*	0.71	1.00	1.22	<b>1.58</b>	2.23	260	510
	652.444	●	●	●	●	1.35	0.90	0.63*	0.89	1.25	1.53	<b>1.98</b>	2.80	260	510
	652.484	●	●	●	●	1.50	1.00	0.80*	1.13	1.60	1.96	<b>2.53</b>	3.58	260	520
	652.514	●	●	●	●	1.65	1.10	0.95*	1.34	1.90	2.32	<b>3.00</b>	4.24	270	520
	652.564	●	●	●	●	2.00	1.30	1.25	1.77	2.50	3.06	<b>3.95</b>	5.59	270	530
	652.604	●	●	●	●	2.20	1.50	1.57	2.23	3.15	3.86	<b>4.98</b>	7.04	270	540
	652.644	●	●	●	●	2.50	1.60	2.00	2.83	4.00	4.90	<b>6.33</b>	8.95	270	540
	652.674	●	●	●	●	2.70	1.80	2.37	3.36	4.75	5.82	<b>7.51</b>	10.62	270	550
	652.724	●	●	●	●	3.00	2.10	3.15	4.45	6.30	7.71	<b>9.96</b>	14.09	280	560
	652.764	●	●	●	●	3.50	2.30	4.00	5.66	8.00	9.80	<b>12.65</b>	17.89	280	570
	652.804	●	●	●	●	4.00	2.60	5.00	7.07	10.00	12.25	<b>15.81</b>	22.36	290	580
	652.844	●	●	●	●	4.50	3.00	6.25	8.84	12.50	15.31	<b>19.76</b>	27.94	290	580
652.884	●	●	●	●	5.00	3.40	8.00	11.31	16.00	19.60	<b>25.30</b>	35.78	290	580	
75°	652.145	●	●	●	●	0.20	0.12	–	0.04*	0.05	0.06	<b>0.08</b>	0.11	380	690
	652.165	●	●	●	●	0.20	0.14	–	0.05*	0.07	0.08	<b>0.10</b>	0.14	380	690
	652.185	●	●	●	●	0.20	0.16	–	0.06*	0.08	0.10	<b>0.13</b>	0.18	380	690
	652.215	●	●	●	●	0.40	0.20	–	0.08*	0.11	0.14	<b>0.18</b>	0.25	380	690
	652.245	●	●	●	●	0.50	0.30	–	0.12*	0.16	0.20	<b>0.26</b>	0.37	380	690
	652.275	●	●	●	●	0.60	0.30	0.11*	0.16*	0.22	0.27	<b>0.35</b>	0.49	380	690
90°	652.216	●	●	●	●	0.40	0.20	0.06*	0.08*	0.11	0.14	<b>0.18</b>	0.25	420	780
	652.246	●	●	●	●	0.50	0.30	0.08*	0.12*	0.16	0.20	<b>0.26</b>	0.37	420	780
	652.276	●	●	●	●	0.60	0.30	0.11*	0.16*	0.22	0.27	<b>0.35</b>	0.49	430	790
	652.306	●	●	●	●	0.70	0.40	0.16*	0.23*	0.32	0.40	<b>0.51</b>	0.72	440	800
	652.336	●	●	●	●	0.90	0.50	0.22*	0.32*	0.45	0.55	<b>0.71</b>	1.00	440	820
	652.366	●	●	●	●	1.00	0.50	0.32*	0.45*	0.63	0.77	<b>1.00</b>	1.41	450	830
	652.406	●	●	●	●	1.20	0.70	0.50*	0.71	1.00	1.22	<b>1.58</b>	2.23	450	840
	652.446	●	●	●	●	1.35	0.80	0.63*	0.89	1.25	1.53	<b>1.98</b>	2.80	460	860
	652.486	●	●	●	●	1.50	0.80	0.80*	1.13	1.60	1.96	<b>2.53</b>	3.58	470	870
	652.516	●	●	●	●	1.65	0.90	0.95*	1.34	1.90	2.32	<b>3.00</b>	4.24	480	880
	652.566	●	●	●	●	2.00	1.10	1.25	1.77	2.50	3.06	<b>3.95</b>	5.59	490	900
	652.606	●	●	●	●	2.20	1.20	1.57	2.23	3.15	3.86	<b>4.98</b>	7.04	500	910
	652.646	●	●	●	●	2.50	1.30	2.00	2.83	4.00	4.90	<b>6.33</b>	8.95	510	930
	652.676	●	●	●	●	2.70	1.40	2.37	3.36	4.75	5.82	<b>7.51</b>	10.62	510	950
	652.726	●	●	●	●	3.00	1.70	3.15	4.45	6.30	7.71	<b>9.96</b>	14.09	520	980
	652.766	●	●	●	●	3.50	1.90	4.00	5.66	8.00	9.80	<b>12.65</b>	17.89	530	1,000
	652.806	●	●	●	●	4.00	2.40	5.00	7.07	10.00	12.25	<b>15.81</b>	22.36	530	1,030
	652.846	●	●	●	●	4.50	2.40	6.25	8.84	12.50	15.31	<b>19.76</b>	27.94	540	1,050
652.886	●	●	●	●	5.00	3.10	8.00	11.31	16.00	19.60	<b>25.30</b>	35.78	540	1,060	

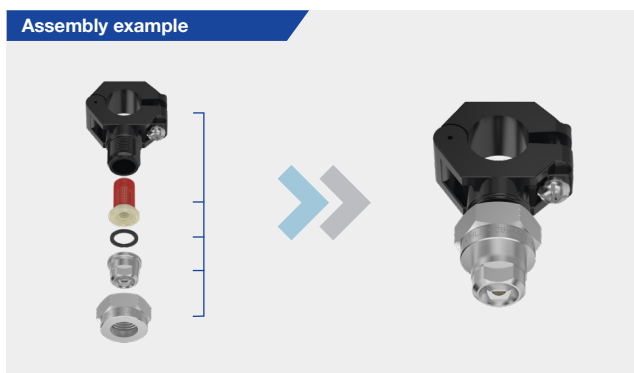




Spray angle	Ordering no.					Equivalent bore diameter A [mm]	Narrowest free cross section Ø [mm]	V̇ water [l/min]						Spray width B [mm] (at p = 5 bar)	
	Type	Mat. no.						p [bar]						H = 250 [mm]	H = 500 [mm]
		16	17 <sup>1</sup>	30	5E			0.5	1.0	2.0	3.0	5.0	10.0		
		Stainless steel 303	Stainless steel 316Ti/ Stainless steel 316L	Brass	PVDF										
120°	652.187	●		●		0.35	0.20	–	0.06*	0.08	0.10	<b>0.13</b>	0.18	630	1,060
	652.217	●		●		0.40	0.20	–	0.08*	0.11	0.14	<b>0.18</b>	0.25	650	1,080
	652.247	●		●		0.50	0.20	–	0.12*	0.16	0.20	<b>0.26</b>	0.37	660	1,100
	652.277	●		●		0.60	0.30	–	0.16*	0.22	0.27	<b>0.35</b>	0.49	670	1,150
	652.307	●		●	●	0.70	0.30	0.16*	0.23*	0.32	0.40	<b>0.51</b>	0.72	710	1,240
	652.337	●	●	●	●	0.90	0.40	0.22*	0.32*	0.45	0.55	<b>0.71</b>	1.00	740	1,350
	652.367	●	●	●	●	1.00	0.50	0.32*	0.45*	0.63	0.77	<b>1.00</b>	1.41	800	1,430
	652.407	●	●	●	●	1.20	0.60	0.50*	0.71	1.00	1.22	<b>1.58</b>	2.23	830	1,480
	652.447	●	●	●	●	1.35	0.60	0.63*	0.89	1.25	1.53	<b>1.98</b>	2.80	840	1,520
	652.487	●	●	●	●	1.50	0.60	0.80*	1.13	1.60	1.96	<b>2.53</b>	3.58	850	1,540
	652.517	●	●	●	●	1.65	0.90	0.95*	1.34	1.90	2.32	<b>3.00</b>	4.24	850	1,560
	652.567	●	●	●	●	2.00	0.90	1.25	1.77	2.50	3.06	<b>3.95</b>	5.59	870	1,590
	652.607	●	●	●	●	2.20	1.10	1.57	2.23	3.15	3.86	<b>4.98</b>	7.04	870	1,620
	652.647	●	●	●		2.50	1.30	2.00	2.83	4.00	4.90	<b>6.33</b>	8.95	880	1,640
	652.677	●	●	●		2.70	1.40	2.37	3.36	4.75	5.82	<b>7.51</b>	10.62	890	1,660
	652.727	●	●	●	●	3.00	1.60	3.15	4.45	6.30	7.71	<b>9.96</b>	14.09	890	1,680
	652.767	●	●	●		3.50	1.70	4.00	5.66	8.00	9.80	<b>12.65</b>	17.89	900	1,700
	652.807	●		●		4.00	2.00	5.00	7.07	10.00	12.25	<b>15.81</b>	22.36	900	1,710
652.847				●	4.50	2.30	6.25	8.84	12.50	15.31	<b>19.76</b>	27.94	900	1,710	
652.887				●	5.00	2.60	8.00	11.31	16.00	19.60	<b>25.30</b>	35.78	910	1,710	

\* Differing spray pattern.

<sup>1</sup> We reserve the right to supply material 316Ti or 316L under material no. 17.



Conversion formula for this series:  $\dot{V}_2 = \dot{V}_1 \cdot \sqrt{\frac{p_2}{p_1}}$

Ordering Type + Material no. = Ordering no.  
example: 652.187 + 16 = 652.187.16

Assembly accessories can be found in Chapter 9 "Accessories".

