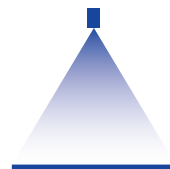


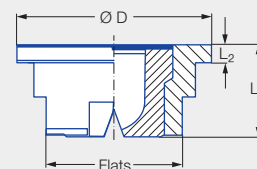
# Low pressure flat fan nozzles for retaining nut

## Series 656/657



### Features:

- Uniform, parabolic liquid distribution
- Stable spray angle
- High spray energy
- Assembly with retaining nut
- Non-clogging



### Applications:

- Cleaning installations
- Gravel washing
- Roll cooling
- Cooling of rolled stock
- Cooling pipes

Series 656/657

Code	Dimensions [mm]				Weight [g] Brass
	L <sub>1</sub>	L <sub>2</sub>	Ø D	Flats	
Assembly with retaining nut 3/4 BSPP	11.0	2.0	24.0	17	23.0

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 <sup>1</sup>	30			0.5	1.0	2.0	3.0	5.0	7.0	10.0		
20°	656.721	●	●	●	3.00	2.50	3.15	4.45	6.30	7.71	<b>9.96</b>	11.78	14.09	100	180
	656.801	●	●	●	4.00	3.20	5.00	7.07	10.00	12.25	<b>15.81</b>	18.71	22.36	100	180
	656.881	●	●	●	5.00	4.00	8.00	11.31	16.00	19.60	<b>25.30</b>	29.94	35.78	100	180
	656.921	●	●	●	5.50	4.40	10.00	14.14	20.00	24.49	<b>31.62</b>	37.41	44.72	100	180
	656.961	●	●	●	6.00	5.30	12.50	17.68	25.00	30.62	<b>39.53</b>	46.77	55.90	100	180
30°	656.722	●	●	●	3.00	2.40	3.15	4.45	6.30	7.71	<b>9.96</b>	11.78	14.09	140	260
	656.762	●	●	●	3.50	2.70	4.00	5.66	8.00	9.80	<b>12.65</b>	14.97	17.89	140	260
	656.802	●	●	●	4.00	3.10	5.00	7.07	10.00	12.25	<b>15.81</b>	18.71	22.36	140	260
	656.882	●	●	●	5.00	4.00	8.00	11.31	16.00	19.60	<b>25.30</b>	29.94	35.78	140	270
	656.922	●	●	●	5.50	4.40	10.00	14.14	20.00	24.49	<b>31.62</b>	37.41	44.72	140	270
656.962	●	●	●	6.00	5.00	12.50	17.68	25.00	30.62	<b>39.53</b>	46.77	55.90	140	270	
45°	656.723	●	●	●	3.00	2.40	3.15	4.45	6.30	7.71	<b>9.96</b>	11.78	14.09	220	420
	656.763	●	●	●	3.50	2.60	4.00	5.66	8.00	9.80	<b>12.65</b>	14.97	17.89	220	420
	656.803	●	●	●	4.00	3.00	5.00	7.07	10.00	12.25	<b>15.81</b>	18.71	22.36	220	420
	656.843	●	●	●	4.50	3.40	6.25	8.84	12.50	15.31	<b>19.76</b>	23.38	27.94	220	420
	656.883	●	●	●	5.00	3.80	8.00	11.31	16.00	19.60	<b>25.30</b>	29.94	35.78	220	420
	656.923	●	●	●	5.50	4.20	10.00	14.14	20.00	24.49	<b>31.62</b>	37.41	44.72	220	430
	656.963	●	●	●	6.00	4.40	12.50	17.68	25.00	30.62	<b>39.53</b>	46.77	55.90	220	430



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			0.5	1.0	2.0	3.0	5.0	7.0	10.0		
		Stainless steel 303	Stainless steel 316Ti/ Stainless steel 316L	Brass											
60°	656.724	●	●	●	3.00	2.10	3.15	4.45	6.30	7.71	<b>9.96</b>	11.78	14.09	280	560
	656.764	●	●	●	3.50	2.30	4.00	5.66	8.00	9.80	<b>12.65</b>	14.97	17.89	280	570
	656.804	●	●	●	4.00	2.60	5.00	7.07	10.00	12.25	<b>15.81</b>	18.71	22.36	290	580
	656.844	●	●	●	4.50	3.00	6.25	8.84	12.50	15.31	<b>19.76</b>	23.38	27.94	290	580
	656.884	●	●	●	5.00	3.40	8.00	11.31	16.00	19.60	<b>25.30</b>	29.94	35.78	290	580
	656.924	●	●	●	5.50	4.10	10.00	14.14	20.00	24.49	<b>31.62</b>	37.41	44.72	290	580
	656.964	●	●	●	6.00	4.20	12.50	17.68	25.00	30.62	<b>39.53</b>	46.77	55.90	290	580
	657.044		●	●	8.00	5.50	20.00	28.29	40.00	48.99	<b>63.25</b>	74.84	89.45	290	580
90°	656.726	●	●	●	3.00	1.70	3.15	4.45	6.30	7.71	<b>9.96</b>	11.78	14.09	520	980
	656.766	●	●	●	3.50	1.90	4.00	5.66	8.00	9.80	<b>12.65</b>	14.97	17.89	530	1,000
	656.806	●	●	●	4.00	2.40	5.00	7.07	10.00	12.25	<b>15.81</b>	18.71	22.36	530	1,030
	656.846	●	●	●	4.50	2.40	6.25	8.84	12.50	15.31	<b>19.76</b>	23.38	27.94	540	1,050
	656.886	●	●	●	5.00	3.10	8.00	11.31	16.00	19.60	<b>25.30</b>	29.94	35.78	540	1,060
	656.926	●	●	●	5.50	3.60	10.00	14.14	20.00	24.49	<b>31.62</b>	37.41	44.72	540	1,070
	656.966	●	●	●	6.00	3.90	12.50	17.68	25.00	30.62	<b>39.53</b>	46.77	55.90	540	1,070
	657.046			●	8.00	4.90	20.00	28.29	40.00	48.99	<b>63.25</b>	74.84	89.45	540	1,070
120°	656.727	●	●	●	3.00	1.60	3.15	4.45	6.30	7.71	<b>9.96</b>	11.78	14.09	890	1,680
	656.767	●	●	●	3.50	1.70	4.00	5.66	8.00	9.80	<b>12.65</b>	14.97	17.89	900	1,700
	656.807	●	●	●	4.00	2.00	5.00	7.07	10.00	12.25	<b>15.81</b>	18.71	22.36	900	1,710
	656.887	●	●	●	5.00	2.60	8.00	11.31	16.00	19.60	<b>25.30</b>	29.94	35.78	910	1,710
	656.927	●	●	●	5.50	2.90	10.00	14.14	20.00	24.49	<b>31.62</b>	37.41	44.72	910	1,710

<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: 656.724 + 16 = 656.724.16



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