



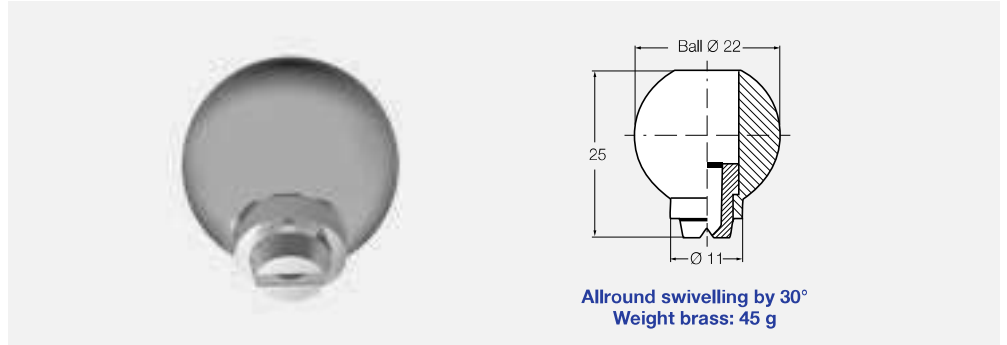
# Flat fan nozzles with ball joint Series 676




**Swivelling nozzle for precise adjusting of jet direction. No gaskets necessary. Long, unproblematic service life.**

**Applications:**

Cleaning, cooling, lubricating.



Spray angle 	Ordering no.		A Ø [mm]	E Ø [mm]	V̇ [l/min]						Spray width B at p=2 bar		
	Type	Mat. no.			p [bar] (p <sub>max</sub> = 30 bar)						H = 250 mm	H = 500 mm	
		16			30	0.5	1.0	2.0	3.0	5.0			10.0
20°	676.301	○	○	0.70	0.60	0.16*	0.23*	0.32	0.39	0.51	0.72	65	120
	676.361	○	○	1.00	0.80	0.31*	0.44*	0.63	0.77	1.00	1.40	70	130
	676.441	○	○	1.35	1.10	0.62*	0.88	1.25	1.53	1.98	2.80	75	145
	676.481	○	○	1.50	1.20	0.80*	1.13	1.60	1.96	2.53	3.58	75	150
30°	676.302	○	○	0.70	0.50	0.16*	0.23*	0.32	0.39	0.51	0.72	120	235
	676.362	○	○	1.00	0.70	0.31*	0.44*	0.63	0.77	1.00	1.40	120	235
	676.402	○	○	1.20	0.90	0.50*	0.71	1.00	1.23	1.58	2.24	120	235
	676.482	○	○	1.50	1.10	0.80*	1.13	1.60	1.96	2.53	3.58	120	235
	676.562	○	○	2.00	1.50	1.25	1.77	2.50	3.06	3.95	5.59	120	235
	676.642	○	○	2.50	1.80	2.00	2.83	4.00	4.90	6.33	8.94	120	240
	676.722	○	○	3.00	2.40	3.15	4.46	6.30	7.72	9.96	14.09	125	240
	676.762	○	○	3.50	2.70	4.00	5.66	8.00	9.80	12.65	17.89	125	245
676.802	○	○	4.00	3.10	5.00	7.07	10.00	12.25	15.81	22.36	130	250	
45°	676.303	○	○	0.70	0.50	0.16*	0.23*	0.32	0.39	0.51	0.72	150	270
	676.363	○	○	1.00	0.60	0.31*	0.44*	0.63	0.77	1.00	1.40	155	280
	676.403	○	○	1.20	0.90	0.50*	0.71	1.00	1.23	1.58	2.24	175	320
	676.483	○	○	1.50	1.10	0.80	1.13	1.60	1.96	2.53	3.58	180	340
	676.563	○	○	2.00	1.40	1.25	1.77	2.50	3.06	3.95	5.59	185	355
	676.643	○	○	2.50	1.80	2.00	2.83	4.00	4.90	6.33	8.94	195	370
	676.723	○	○	3.00	2.40	3.15	4.46	6.30	7.72	9.96	14.09	200	375
	676.763	○	○	3.50	2.60	4.00	5.66	8.00	9.80	12.65	17.89	200	380
676.803	○	○	4.00	3.00	5.00	7.07	10.00	12.25	15.81	22.36	205	385	
60°	676.304	○	○	0.70	0.40	0.16*	0.23*	0.32	0.39	0.51	0.72	215	425
	676.334	○	○	0.90	0.50	0.22*	0.32*	0.45	0.55	0.71	1.01	220	440
	676.364	○	○	1.00	0.60	0.31*	0.44*	0.63	0.77	1.00	1.40	230	460
	676.404	○	○	1.20	0.80	0.50*	0.71	1.00	1.23	1.58	2.24	245	485
	676.444	○	○	1.35	0.90	0.62*	0.88	1.25	1.53	1.98	2.80	255	495
	676.484	○	○	1.50	1.00	0.80*	1.13	1.60	1.96	2.53	3.58	260	510
	676.514	○	○	1.65	1.10	0.95*	1.34	1.90	2.33	3.00	4.25	270	520
	676.564	○	○	2.00	1.30	1.25	1.77	2.50	3.06	3.95	5.59	280	535
	676.604	○	○	2.20	1.50	1.58	2.23	3.15	3.86	4.98	7.04	290	550
	676.644	○	○	2.50	1.60	2.00	2.83	4.00	4.90	6.33	8.94	295	565
	676.674	○	○	2.70	1.80	2.38	3.36	4.75	5.82	7.51	10.62	300	575
	676.724	○	○	3.00	2.10	3.15	4.46	6.30	7.72	9.96	14.09	305	590
676.764	○	○	3.50	2.30	4.00	5.66	8.00	9.80	12.65	17.89	310	595	

A = equivalent bore diameter · E = narrowest free cross section  
\* Differing spray pattern

Continued on next page.



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





# Flat fan nozzles with ball joint Series 676



Spray angle 	Ordering no.		A Ø [mm]	E Ø [mm]	V [l/min]						Spray width B at p=2 bar 		
	Type	Mat. no.			p [bar] (p <sub>max</sub> = 30 bar)						H = 250 mm	H = 500 mm	
		16			30	0,5	1,0	2,0	3,0	5,0			10,0
75°	676.145	○	○	0.20	0.12	-	0.04*	0.05	0.06	0.08	0.11	280	550
	676.165	○	○	0.20	0.08	-	0.05*	0.07	0.08	0.10	0.15	290	560
	676.185	○	○	0.20	0.15	-	0.06*	0.08	0.10	0.13	0.18	300	575
	676.215	○	○	0.40	0.20	-	0.08*	0.11	0.14	0.18	0.25	300	580
	676.245	○	○	0.50	0.30	-	0.12*	0.16	0.20	0.26	0.30	310	585
	676.275	○	○	0.60	0.30	0.11*	0.16*	0.22	0.27	0.35	0.49	310	590
90°	676.216	○	○	0.40	0.20	-	0.08*	0.11	0.14	0.18	0.25	370	700
	676.276	○	○	0.60	0.30	0.11*	0.16*	0.22	0.27	0.35	0.49	375	720
	676.306	○	○	0.70	0.40	0.16*	0.23*	0.32	0.39	0.51	0.72	380	740
	676.336	○	○	0.90	0.50	0.22*	0.32*	0.45	0.55	0.71	1.01	415	800
	676.366	○	○	1.00	0.50	0.31*	0.44*	0.63	0.77	1.00	1.40	420	810
	676.406	○	○	1.20	0.70	0.50*	0.71	1.00	1.23	1.58	2.24	430	820
	676.446	○	○	1.35	0.80	0.62*	0.88	1.25	1.53	1.98	2.80	435	830
	676.486	○	○	1.50	0.80	0.80*	1.13	1.60	1.96	2.53	3.58	440	835
	676.516	○	○	1.65	0.90	0.95*	1.34	1.90	2.33	3.00	4.25	440	840
	676.566	○	○	2.00	1.10	1.25	1.77	2.50	3.06	3.95	5.59	445	850
	676.606	○	○	2.20	1.20	1.58	2.23	3.15	3.86	4.98	7.04	450	860
	676.646	○	○	2.50	1.30	2.00	2.83	4.00	4.90	6.33	8.94	455	865
	676.676	○	○	2.70	1.40	2.38	3.36	4.75	5.82	7.51	10.62	465	875
676.726	○	○	3.00	1.70	3.15	4.46	6.30	7.72	9.96	14.09	470	885	
120°	676.187	○	○	0.35	0.20	-	0.06*	0.08	0.10	0.13	0.18	630	1,200
	676.217	○	○	0.40	0.20	-	0.08*	0.11	0.14	0.18	0.25	640	1,210
	676.247	○	○	0.50	0.20	-	0.12*	0.16	0.20	0.26	0.36	650	1,230
	676.277	○	○	0.60	0.30	-	0.16*	0.22	0.27	0.35	0.49	660	1,250
	676.307	○	○	0.70	0.30	0.16*	0.23*	0.32	0.39	0.51	0.72	660	1,250
	676.337	○	○	0.90	0.40	0.22*	0.32*	0.45	0.55	0.71	1.01	670	1,270
	676.367	○	○	1.00	0.50	0.31*	0.44*	0.63	0.77	1.00	1.40	670	1,270
	676.407	○	○	1.20	0.60	0.50*	0.71	1.00	1.23	1.58	2.24	670	1,270
	676.447	○	○	1.35	0.60	0.62*	0.88	1.25	1.53	1.98	2.80	675	1,270
	676.487	○	○	1.50	0.60	0.80*	1.13	1.60	1.96	2.53	3.58	680	1,275
	676.517	○	○	1.65	0.90	0.95*	1.34	1.90	2.33	3.00	4.25	685	1,280
	676.567	○	○	2.00	0.90	1.25	1.77	2.50	3.06	3.95	5.59	690	1,285
	676.607	○	○	2.20	1.10	1.58	2.23	3.15	3.86	4.98	7.04	700	1,300
	676.647	○	○	2.50	1.30	2.00	2.83	4.00	4.90	6.33	8.94	700	1,300
	676.677	○	○	2.70	1.40	2.38	3.36	4.75	5.82	7.51	10.62	720	1,330
	676.727	○	○	3.00	1.60	3.15	4.46	6.30	7.72	9.96	14.09	740	1,360
	676.767	○	○	3.50	1.70	4.00	5.66	8.00	9.80	12.65	17.89	760	1,400

A = equivalent bore diameter · E = narrowest free cross section  
\* Differing spray pattern

Accessories see next page.

**Example**    **Type**    +    **Material-no.**    =    **Ordering no.**  
**for ordering:**    676.145    +    16    =    676.145,16



# Flat fan nozzles with ball joint Series 676



## Accessories

**Retaining nut**  
092.020.16.00.02  
Material: 303 SS  
092.020.30.00.02  
Material: Brass



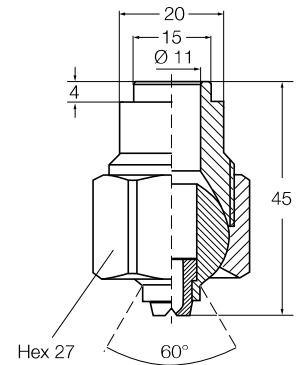
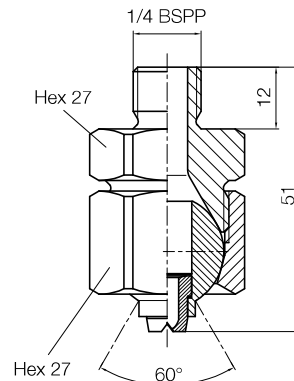
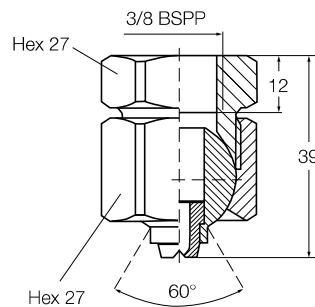
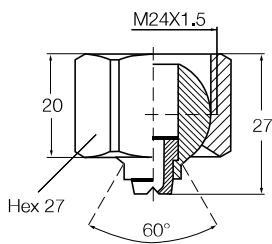
**Socket**  
092.020.16.AF.03  
Material: 303 SS  
092.020.30.AF.03  
Material: Brass



**Retaining nipple**  
092.024.16.AC.03  
Material: 303 SS  
092.024.30.AC.03  
Material: Brass



**Welding nipple**  
092.020.17.00.04  
Material: 316Ti SS



Flat fan nozzles