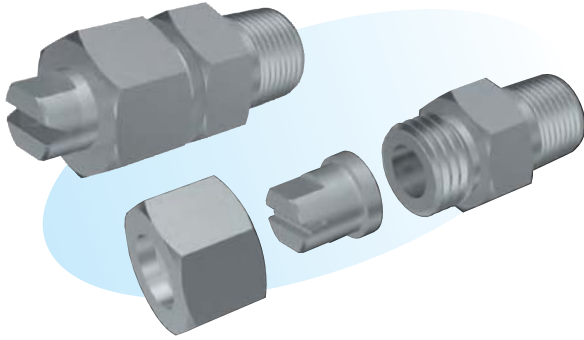


# Flat Spray Nozzles Separate Type



## Features

- Interchangeable spray tips.
- With the welded type spray pattern positioning is obtainable simply by welding to an adapter.

## Applications

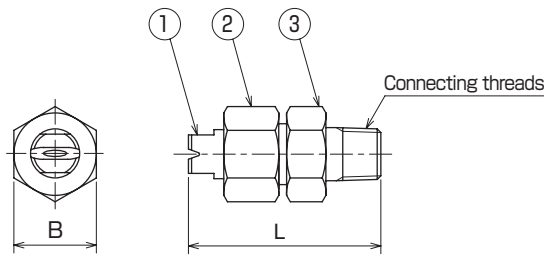
- Washing of vehicles, shipping containers, films, felts, filters, screens, bottles, soil, ballast, metals, machines, steel sheets, steel billets, wires, containers, etc.
- Spraying of etching solution, oil, lubricant, liquid glue, insect repellent, herbicide, aqueous solution, etc.
- Cooling of gases, smoke, heat exchangers, tanks, steel sheets, steel billets, roofs, etc.

## Materials

- Screwed type: Stainless steel (standard material : SUS303) or brass
- Welded type: Nozzle tip: stainless steel (standard material : SUS303) or brass  
Adapter: stainless steel (standard material : SUS304)

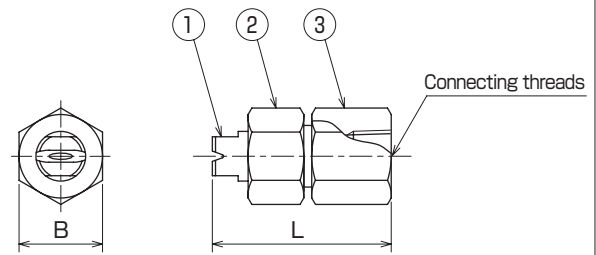
## Shapes and dimensions

### ● KSA type, external threaded



Model	Dimension (mm)		Connecting threads	Weight (g)
	B	L		
1/4 KSA	21	49	R1/4	70
3/8 KSA	21	49	R3/8	70
1/2 KSA	26	66	R1/2	140
3/4 KSA	35	86	R3/4	320

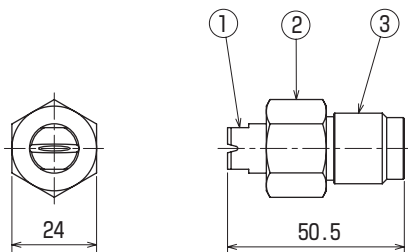
### ● KSA type, internal threaded



Number	Part name
①	Nozzle tip
②	Cap
③	Adapter

Model	Dimension (mm)		Connecting threads	Weight (g)
	B	L		
1/4 KSA	21	45	Rc 1/4	75
3/8 KSA	21	45	Rc 3/8	65
1/2 KSA	26	56	Rc 1/2	160
3/4 KSA	35	70	Rc 3/4	360

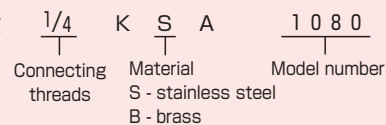
### ● KSAM type, welded type



Model	Weight (g)
KSAM	100

NPT thread is also available.

### ● Model and Model Number representing



● Standard type model number list

●: Model availability

Connec- ting threads	Model		Model number	Minimum orifice diameter (mm)	Flow rate (L/min) at following pressure (MPa)								Spray angle at following pressure (MPa)					
	R/Rc threads	Welded type			0.05	0.1	0.2	0.3	0.5	0.7	1.0	1.5	0.1	0.2	0.3	0.5	1.0	1.5
	KSA	KSAM																
1/4 3/8	●	●	00615	0.7	0.24	0.35	0.49	0.60	0.77	0.92	1.10	1.34	5°	11°	15°	17°	19°	19°
	●	●	00625	0.7	0.24	0.35	0.49	0.60	0.77	0.92	1.10	1.34	11°	20°	25°	28°	30°	30°
	●	●	00640	0.6	0.24	0.35	0.49	0.60	0.77	0.92	1.10	1.34	26°	35°	40°	44°	46°	46°
	●	●	00650	0.5	0.24	0.35	0.49	0.60	0.77	0.92	1.10	1.34	37°	45°	50°	55°	59°	59°
	●	●	00665	0.5	0.24	0.35	0.49	0.60	0.77	0.92	1.10	1.34	48°	59°	65°	71°	74°	74°
	●	●	00680	0.4	0.24	0.35	0.49	0.60	0.77	0.92	1.10	1.34	62°	73°	80°	85°	88°	88°
	●	●	00815	0.8	0.33	0.46	0.65	0.80	1.03	1.22	1.46	1.79	7°	12°	15°	17°	19°	19°
	●	●	00825	0.8	0.33	0.46	0.65	0.80	1.03	1.22	1.46	1.79	13°	20°	25°	28°	30°	30°
	●	●	00840	0.7	0.33	0.46	0.65	0.80	1.03	1.22	1.46	1.79	27°	35°	40°	44°	46°	46°
	●	●	00850	0.6	0.33	0.46	0.65	0.80	1.03	1.22	1.46	1.79	38°	45°	50°	55°	59°	59°
	●	●	00865	0.5	0.33	0.46	0.65	0.80	1.03	1.22	1.46	1.79	49°	60°	65°	71°	74°	74°
	●	●	00880	0.5	0.33	0.46	0.65	0.80	1.03	1.22	1.46	1.79	64°	75°	80°	85°	88°	88°
	●	●	0115	0.9	0.41	0.58	0.82	1.00	1.29	1.53	1.83	2.2	7°	12°	15°	17°	19°	19°
	●	●	0125	0.9	0.41	0.58	0.82	1.00	1.29	1.53	1.83	2.2	14°	21°	25°	28°	30°	30°
	●	●	0140	0.8	0.41	0.58	0.82	1.00	1.29	1.53	1.83	2.2	28°	36°	40°	43°	46°	46°
	●	●	0150	0.7	0.41	0.58	0.82	1.00	1.29	1.53	1.83	2.2	38°	46°	50°	54°	57°	57°
	●	●	0165	0.7	0.41	0.58	0.82	1.00	1.29	1.53	1.83	2.2	49°	60°	65°	70°	74°	74°
	●	●	0180	0.6	0.41	0.58	0.82	1.00	1.29	1.53	1.83	2.2	64°	75°	80°	85°	88°	88°
	●	●	01515	1.1	0.61	0.87	1.22	1.50	1.94	2.3	2.7	3.4	9°	13°	15°	17°	19°	19°
	●	●	01525	1.0	0.61	0.87	1.22	1.50	1.94	2.3	2.7	3.4	14°	21°	25°	28°	30°	30°
	●	●	01540	0.9	0.61	0.87	1.22	1.50	1.94	2.3	2.7	3.4	28°	36°	40°	43°	46°	46°
	●	●	01550	0.8	0.61	0.87	1.22	1.50	1.94	2.3	2.7	3.4	38°	46°	50°	54°	56°	56°
	●	●	01565	0.7	0.61	0.87	1.22	1.50	1.94	2.3	2.7	3.4	50°	60°	65°	70°	73°	73°
	●	●	01580	0.6	0.61	0.87	1.22	1.50	1.94	2.3	2.7	3.4	65°	75°	80°	85°	88°	88°
	●	●	0215	1.3	0.82	1.15	1.63	2.0	2.6	3.1	3.7	4.5	9°	13°	15°	17°	19°	19°
	●	●	0225	1.2	0.82	1.15	1.63	2.0	2.6	3.1	3.7	4.5	15°	21°	25°	28°	30°	30°
	●	●	0240	1.1	0.82	1.15	1.63	2.0	2.6	3.1	3.7	4.5	30°	37°	40°	43°	45°	45°
	●	●	0250	1.0	0.82	1.15	1.63	2.0	2.6	3.1	3.7	4.5	38°	46°	50°	53°	55°	55°
	●	●	0265	0.9	0.82	1.15	1.63	2.0	2.6	3.1	3.7	4.5	50°	60°	65°	70°	73°	73°
	●	●	0280	0.8	0.82	1.15	1.63	2.0	2.6	3.1	3.7	4.5	65°	75°	80°	85°	88°	88°
	●	●	0315	1.7	1.22	1.73	2.4	3.0	3.9	4.6	5.5	6.7	10°	13°	15°	17°	19°	19°
	●	●	0325	1.6	1.22	1.73	2.4	3.0	3.9	4.6	5.5	6.7	16°	22°	25°	28°	30°	30°
	●	●	0340	1.4	1.22	1.73	2.4	3.0	3.9	4.6	5.5	6.7	30°	37°	40°	43°	45°	45°
	●	●	0350	1.3	1.22	1.73	2.4	3.0	3.9	4.6	5.5	6.7	38°	46°	50°	53°	55°	55°
	●	●	0365	1.2	1.22	1.73	2.4	3.0	3.9	4.6	5.5	6.7	50°	60°	65°	70°	73°	73°
	●	●	0380	1.0	1.22	1.73	2.4	3.0	3.9	4.6	5.5	6.7	65°	75°	80°	85°	88°	88°
	●	●	0415	1.8	1.63	2.3	3.3	4.0	5.2	6.1	7.3	8.9	10°	13°	15°	17°	19°	19°
	●	●	0425	1.7	1.63	2.3	3.3	4.0	5.2	6.1	7.3	8.9	16°	22°	25°	28°	30°	30°
	●	●	0440	1.6	1.63	2.3	3.3	4.0	5.2	6.1	7.3	8.9	30°	37°	40°	43°	45°	45°
	●	●	0450	1.5	1.63	2.3	3.3	4.0	5.2	6.1	7.3	8.9	38°	46°	50°	53°	55°	55°
	●	●	0465	1.3	1.63	2.3	3.3	4.0	5.2	6.1	7.3	8.9	50°	60°	65°	70°	73°	73°
	●	●	0480	1.1	1.63	2.3	3.3	4.0	5.2	6.1	7.3	8.9	65°	75°	80°	85°	88°	88°
	●	●	0515	2.0	2.0	2.9	4.1	5.0	6.5	7.6	9.1	11.2	10°	13°	15°	17°	19°	19°
	●	●	0525	1.9	2.0	2.9	4.1	5.0	6.5	7.6	9.1	11.2	16°	22°	25°	28°	30°	30°
	●	●	0540	1.8	2.0	2.9	4.1	5.0	6.5	7.6	9.1	11.2	30°	37°	40°	43°	45°	45°
	●	●	0550	1.7	2.0	2.9	4.1	5.0	6.5	7.6	9.1	11.2	38°	46°	50°	53°	55°	55°
	●	●	0565	1.6	2.0	2.9	4.1	5.0	6.5	7.6	9.1	11.2	50°	60°	65°	70°	73°	73°
	●	●	0580	1.4	2.0	2.9	4.1	5.0	6.5	7.6	9.1	11.2	65°	75°	80°	85°	88°	88°
●	●	0615	2.2	2.4	3.5	4.9	6.0	7.7	9.2	11.0	13.4	10°	13°	15°	17°	19°	19°	
●	●	0625	2.1	2.4	3.5	4.9	6.0	7.7	9.2	11.0	13.4	16°	22°	25°	28°	30°	30°	
●	●	0640	2.0	2.4	3.5	4.9	6.0	7.7	9.2	11.0	13.4	30°	37°	40°	43°	45°	45°	
●	●	0650	1.9	2.4	3.5	4.9	6.0	7.7	9.2	11.0	13.4	38°	46°	50°	53°	55°	55°	
●	●	0665	1.8	2.4	3.5	4.9	6.0	7.7	9.2	11.0	13.4	50°	60°	65°	70°	73°	73°	
●	●	0680	1.5	2.4	3.5	4.9	6.0	7.7	9.2	11.0	13.4	65°	75°	80°	85°	88°	88°	
●	●	0815	2.6	3.3	4.6	6.5	8.0	10.3	12.2	14.6	17.9	10°	13°	15°	17°	19°	19°	
●	●	0825	2.5	3.3	4.6	6.5	8.0	10.3	12.2	14.6	17.9	16°	22°	25°	28°	30°	30°	
●	●	0840	2.3	3.3	4.6	6.5	8.0	10.3	12.2	14.6	17.9	30°	37°	40°	43°	45°	45°	
●	●	0850	2.2	3.3	4.6	6.5	8.0	10.3	12.2	14.6	17.9	38°	46°	50°	53°	55°	55°	
●	●	0865	2.0	3.3	4.6	6.5	8.0	10.3	12.2	14.6	17.9	50°	60°	65°	70°	73°	73°	
●	●	0880	1.7	3.3	4.6	6.5	8.0	10.3	12.2	14.6	17.9	65°	75°	80°	85°	88°	88°	

● Standard type model number list

●: Model availability

Conne- cting threads	Model		Model number	Minimum orifice diameter (mm)	Flow rate ( L /min) at following pressure (MPa)								Spray angle at following pressure (MPa)					
	R/Rc threads	Welded type			0.05	0.1	0.2	0.3	0.5	0.7	1.0	1.5	0.1	0.2	0.3	0.5	1.0	1.5
	KSA	KSAM																
1/4 3/8	●	●	1015	3.1	4.1	5.8	8.2	10.0	12.9	15.3	18.3	22.4	10°	13°	15°	17°	19°	19°
	●	●	1025	2.8	4.1	5.8	8.2	10.0	12.9	15.3	18.3	22.4	17°	22°	25°	28°	30°	30°
	●	●	1040	2.6	4.1	5.8	8.2	10.0	12.9	15.3	18.3	22.4	32°	37°	40°	43°	45°	45°
	●	●	1050	2.5	4.1	5.8	8.2	10.0	12.9	15.3	18.3	22.4	42°	47°	50°	53°	55°	55°
	●	●	1065	2.3	4.1	5.8	8.2	10.0	12.9	15.3	18.3	22.4	55°	61°	65°	68°	70°	70°
	●	●	1080	2.0	4.1	5.8	8.2	10.0	12.9	15.3	18.3	22.4	70°	77°	80°	84°	86°	86°
	●	●	1515	3.6	6.1	8.7	12.2	15.0	19.4	22.9	27.4	33.5	10°	13°	15°	17°	19°	19°
	●	●	1525	3.5	6.1	8.7	12.2	15.0	19.4	22.9	27.4	33.5	17°	22°	25°	28°	30°	30°
	●	●	1540	3.4	6.1	8.7	12.2	15.0	19.4	22.9	27.4	33.5	32°	37°	40°	43°	45°	45°
	●	●	1550	3.3	6.1	8.7	12.2	15.0	19.4	22.9	27.4	33.5	42°	47°	50°	53°	55°	55°
	●	●	1565	3.0	6.1	8.7	12.2	15.0	19.4	22.9	27.4	33.5	56°	62°	65°	68°	70°	70°
	●	●	1580	2.5	6.1	8.7	12.2	15.0	19.4	22.9	27.4	33.5	71°	77°	80°	83°	85°	85°
	●	●	2015	4.2	8.2	11.5	16.3	20.0	25.8	30.6	36.5	44.7	10°	13°	15°	17°	19°	19°
	●	●	2025	4.1	8.2	11.5	16.3	20.0	25.8	30.6	36.5	44.7	17°	22°	25°	28°	30°	30°
	●	●	2040	3.8	8.2	11.5	16.3	20.0	25.8	30.6	36.5	44.7	32°	37°	40°	43°	45°	45°
	●	●	2050	3.7	8.2	11.5	16.3	20.0	25.8	30.6	36.5	44.7	42°	47°	50°	53°	55°	55°
	●	●	2065	3.4	8.2	11.5	16.3	20.0	25.8	30.6	36.5	44.7	56°	62°	65°	68°	70°	70°
	●	●	2080	3.0	8.2	11.5	16.3	20.0	25.8	30.6	36.5	44.7	71°	77°	80°	83°	85°	85°
	●		2515	4.8	10.2	14.4	20.4	25.0	32.3	38.2	45.6	55.9	10°	13°	15°	17°	19°	19°
	●		2525	4.6	10.2	14.4	20.4	25.0	32.3	38.2	45.6	55.9	17°	22°	25°	28°	30°	30°
	●		2540	4.4	10.2	14.4	20.4	25.0	32.3	38.2	45.6	55.9	32°	37°	40°	43°	45°	45°
	●		2550	4.1	10.2	14.4	20.4	25.0	32.3	38.2	45.6	55.9	42°	47°	50°	53°	55°	55°
	●		2565	3.8	10.2	14.4	20.4	25.0	32.3	38.2	45.6	55.9	56°	62°	65°	68°	70°	70°
	●		2580	3.5	10.2	14.4	20.4	25.0	32.3	38.2	45.6	55.9	71°	77°	80°	83°	85°	85°
	●		3015	5.0	12.2	17.3	24.5	30.0	38.7	45.8	54.8	67.1	10°	13°	15°	17°	19°	19°
	●		3025	4.8	12.2	17.3	24.5	30.0	38.7	45.8	54.8	67.1	17°	22°	25°	28°	30°	30°
	●		3040	4.6	12.2	17.3	24.5	30.0	38.7	45.8	54.8	67.1	32°	37°	40°	43°	45°	45°
	●		3050	4.4	12.2	17.3	24.5	30.0	38.7	45.8	54.8	67.1	42°	47°	50°	53°	55°	55°
	●		3065	4.2	12.2	17.3	24.5	30.0	38.7	45.8	54.8	67.1	56°	62°	65°	68°	70°	70°
	●		3080	4.0	12.2	17.3	24.5	30.0	38.7	45.8	54.8	67.1	71°	77°	80°	83°	85°	85°
1/2 3/4	●		4050	5.2	16.3	23.1	32.7	40.0	51.6	61.1	73.0	89.4	42°	47°	50°	53°	55°	55°
	●		4065	5.0	16.3	23.1	32.7	40.0	51.6	61.1	73.0	89.4	57°	62°	65°	68°	70°	70°
	●		4080	4.8	16.3	23.1	32.7	40.0	51.6	61.1	73.0	89.4	72°	77°	80°	83°	85°	85°
	●		5050	5.5	20.4	28.9	40.8	50.0	64.5	76.4	91.3	112	42°	47°	50°	53°	55°	55°
	●		5065	5.3	20.4	28.9	40.8	50.0	64.5	76.4	91.3	112	57°	62°	65°	68°	70°	70°
	●		5080	5.1	20.4	28.9	40.8	50.0	64.5	76.4	91.3	112	72°	77°	80°	83°	85°	85°
	●		6050	6.0	24.5	34.6	49.0	60.0	77.5	91.7	110	134	42°	47°	50°	53°	55°	55°
	●		6065	5.8	24.5	34.6	49.0	60.0	77.5	91.7	110	134	57°	62°	65°	68°	70°	70°
	●		6080	5.5	24.5	34.6	49.0	60.0	77.5	91.7	110	134	72°	77°	80°	83°	85°	85°
	●		7550	7.0	30.6	43.3	61.2	75.0	96.8	115	137	168	42°	47°	50°	53°	55°	55°
	●		7565	6.7	30.6	43.3	61.2	75.0	96.8	115	137	168	57°	62°	65°	68°	70°	70°
	●		7580	6.4	30.6	43.3	61.2	75.0	96.8	115	137	168	72°	77°	80°	83°	85°	85°