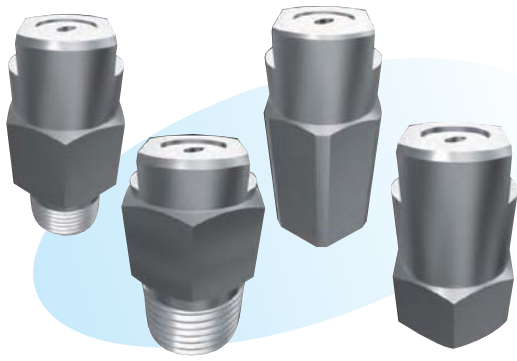


# Oval Spray Nozzles



## ► Features

- Relatively small droplets size.
- Wide spray area.
- Easy-to-maintain three-piece type.

## ► Applications

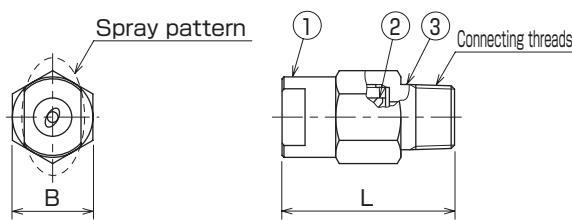
- Cooling of steel sheets, rollers, and hot coils.
- Secondary cooling in continuous casting processes.
- Various washing purposes.

## ► Materials

- Stainless steel (standard material: SUS303) or brass

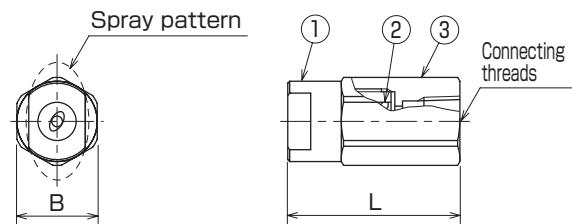
## Shapes and dimensions

### ● KSE type



Model	Dimension (mm)		Connecting threads	Weight (g)
	B	L		
1/4 KSE	21	45	R 1/4	55
3/8 KSE	21	45	R 3/8	85
1/2 KSE	29	60	R 1/2	205
3/4 KSE	32	68	R 3/4	265

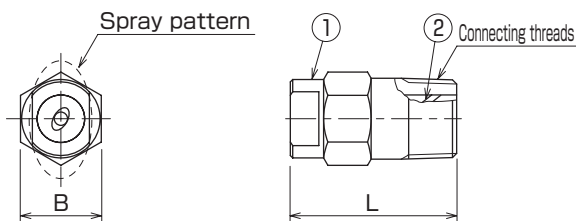
### ● KSE...H type



No.	Part name
①	Nozzle body
②	Core
③	Adapter

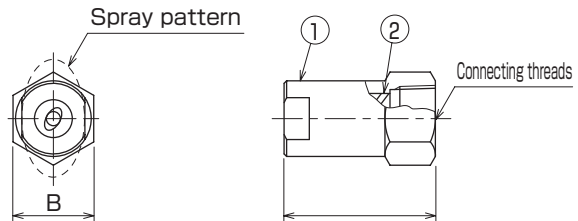
Model	Dimension (mm)		Connecting threads	Weight (g)
	B	L		
1/4 KSE...H	21	45	Rc 1/4	55
3/8 KSE...H	21	45	Rc 3/8	85
1/2 KSE...H	29	60	Rc 1/2	205
3/4 KSE...H	32	68	Rc 3/4	265

### ● KSE...S type



Model	Dimension (mm)		Connecting threads	Weight (g)
	B	L		
1/4 KSE...S	14	28	R 1/4	22
3/8 KSE...S	17	35	R 3/8	55
1/2 KSE...S	22	42	R 1/2	88
3/4 KSE...S	27	54	R 3/4	185
1 KSE...S	35	65	R 1	350

### ● KSE...HS type



No.	Part name
①	Nozzle body
②	Core

Model	Dimension (mm)		Connecting threads	Weight (g)
	B	L		
1/4 KSE...HS	17	38	Rc 1/4	105
3/8 KSE...HS	21	45	Rc 3/8	160
1/2 KSE...HS	29	60	Rc 1/2	210
3/4 KSE...HS	32	60	Rc 3/4	220
1 KSE...HS	41	75	Rc 1	440

NPT thread is also available.

● Model and Model Number representing

1/4	K	S	E	1090	U
Connecting threads	Material	Material	Material	Model number	Water flow distribution
	S - stainless steel	S - stainless steel	S - stainless steel		U - uniform distribution
	B - brass	B - brass	B - brass		No symbol - normal distribution

## ● Standard type model number list (connecting threads: 1/4 to 3/4)

● : Model availability

Connecting threads	Model				Uniform distribution type	Model number	Minimum orifice diameter (mm)	Flow rate (L/min) at following pressure (MPa)								Spray angle at following pressure (MPa) (longer dia. direction)	
	R threads		Rc threads					0.1	0.15	0.2	0.3	0.4	0.5	0.7	1.0		1.5
	KSE ...	KSE ...S	KSE ...H	KSE ...HS													
1/4	●	●	●	●	●	0265	0.8	1.25	1.49	1.68	2.0	2.3	2.5	2.9	3.4	4.0	65°
	●	●	●	●	●	0275	0.8	1.25	1.49	1.68	2.0	2.3	2.5	2.9	3.4	4.0	75°
	●	●	●	●	●	0290	0.8	1.25	1.49	1.68	2.0	2.3	2.5	2.9	3.4	4.0	90°
	●	●	●	●	●	02565	0.9	1.56	1.86	2.1	2.5	2.8	3.1	3.6	4.2	5.0	65°
	●	●	●	●	●	02575	0.9	1.56	1.86	2.1	2.5	2.8	3.1	3.6	4.2	5.0	75°
	●	●	●	●	●	02590	0.9	1.56	1.86	2.1	2.5	2.8	3.1	3.6	4.2	5.0	90°
	●	●	●	●	●	0365	1.0	1.87	2.2	2.5	3.0	3.4	3.7	4.3	5.0	6.0	65°
	●	●	●	●	●	0375	1.0	1.87	2.2	2.5	3.0	3.4	3.7	4.3	5.0	6.0	75°
	●	●	●	●	●	0390	1.0	1.87	2.2	2.5	3.0	3.4	3.7	4.3	5.0	6.0	90°
	●	●	●	●	●	03565	1.1	2.2	2.6	2.9	3.5	4.0	4.4	5.0	5.9	7.0	65°
	●	●	●	●	●	03575	1.1	2.2	2.6	2.9	3.5	4.0	4.4	5.0	5.9	7.0	75°
	●	●	●	●	●	03590	1.1	2.2	2.6	2.9	3.5	4.0	4.4	5.0	5.9	7.0	90°
3/8	●	●	●	●	●	0465	1.2	2.5	3.0	3.4	4.0	4.5	5.0	5.8	6.7	8.0	65°
	●	●	●	●	●	0475	1.2	2.5	3.0	3.4	4.0	4.5	5.0	5.8	6.7	8.0	75°
	●	●	●	●	●	0490	1.2	2.5	3.0	3.4	4.0	4.5	5.0	5.8	6.7	8.0	90°
	●	●	●	●	●	0565	1.3	3.1	3.7	4.2	5.0	5.7	6.2	7.2	8.4	10.0	65°
	●	●	●	●	●	0575	1.3	3.1	3.7	4.2	5.0	5.7	6.2	7.2	8.4	10.0	75°
	●	●	●	●	●	0590	1.3	3.1	3.7	4.2	5.0	5.7	6.2	7.2	8.4	10.0	90°
	●	●	●	●	●	0665	1.4	3.7	4.5	5.0	6.0	6.8	7.5	8.6	10.1	12.0	65°
	●	●	●	●	●	0675	1.4	3.7	4.5	5.0	6.0	6.8	7.5	8.6	10.1	12.0	75°
	●	●	●	●	●	0690	1.4	3.7	4.5	5.0	6.0	6.8	7.5	8.6	10.1	12.0	90°
	●	●	●	●	●	0765	1.5	4.4	5.2	5.9	7.0	7.9	8.7	10.1	11.8	14.0	65°
	●	●	●	●	●	0775	1.5	4.4	5.2	5.9	7.0	7.9	8.7	10.1	11.8	14.0	75°
	●	●	●	●	●	0790	1.5	4.4	5.2	5.9	7.0	7.9	8.7	10.1	11.8	14.0	90°
	●	●	●	●	●	0865	1.6	5.0	5.9	6.7	8.0	9.1	10.0	11.5	13.4	16.0	65°
	●	●	●	●	●	0875	1.6	5.0	5.9	6.7	8.0	9.1	10.0	11.5	13.4	16.0	75°
	●	●	●	●	●	0890	1.6	5.0	5.9	6.7	8.0	9.1	10.0	11.5	13.4	16.0	90°
	●	●	●	●	●	0965	1.8	5.6	6.7	7.6	9.0	10.2	11.2	13.0	15.1	18.0	65°
	●	●	●	●	●	0975	1.8	5.6	6.7	7.6	9.0	10.2	11.2	13.0	15.1	18.0	75°
	●	●	●	●	●	0990	1.8	5.6	6.7	7.6	9.0	10.2	11.2	13.0	15.1	18.0	90°
	●	●	●	●	●	1065	1.9	6.2	7.4	8.4	10.0	11.3	12.5	14.4	16.8	20.0	65°
	●	●	●	●	●	1075	1.9	6.2	7.4	8.4	10.0	11.3	12.5	14.4	16.8	20.0	75°
	●	●	●	●	●	1090	1.9	6.2	7.4	8.4	10.0	11.3	12.5	14.4	16.8	20.0	90°
	●	●	●	●	●	1165	2.0	6.9	8.2	9.2	11.0	12.5	13.7	15.8	18.5	22.0	65°
	●	●	●	●	●	1175	2.0	6.9	8.2	9.2	11.0	12.5	13.7	15.8	18.5	22.0	75°
	●	●	●	●	●	1190	2.0	6.9	8.2	9.2	11.0	12.5	13.7	15.8	18.5	22.0	90°
●	●	●	●	●	1265	2.1	7.5	8.9	10.1	12.0	13.6	15.0	17.3	20.2	24.0	65°	
●	●	●	●	●	1275	2.1	7.5	8.9	10.1	12.0	13.6	15.0	17.3	20.2	24.0	75°	
●	●	●	●	●	1290	2.1	7.5	8.9	10.1	12.0	13.6	15.0	17.3	20.2	24.0	90°	
●	●	●	●	●	1565	2.3	9.4	11.1	12.6	15.0	17.0	18.7	21.6	25.2	30.0	65°	
●	●	●	●	●	1575	2.3	9.4	11.1	12.6	15.0	17.0	18.7	21.6	25.2	30.0	75°	
●	●	●	●	●	1590	2.3	9.4	11.1	12.6	15.0	17.0	18.7	21.6	25.2	30.0	90°	
1/2	●	●	●	●	●	1965	2.5	11.9	14.1	16.0	19.0	21.5	23.7	27.4	31.9	38.0	65°
	●	●	●	●	●	1975	2.5	11.9	14.1	16.0	19.0	21.5	23.7	27.4	31.9	38.0	75°
	●	●	●	●	●	1990	2.5	11.9	14.1	16.0	19.0	21.5	23.7	27.4	31.9	38.0	90°
	●	●	●	●	●	2365	2.7	14.4	17.1	19.3	23.0	26.0	28.7	33.1	38.6	46.0	65°
	●	●	●	●	●	2375	2.7	14.4	17.1	19.3	23.0	26.0	28.7	33.1	38.6	46.0	75°
	●	●	●	●	●	2390	2.7	14.4	17.1	19.3	23.0	26.0	28.7	33.1	38.6	46.0	90°
3/4	●	●	●	●	●	2570	2.8	15.6	18.6	21.0	25.0	28.3	31.2	36.0	42.0	50.0	70°
	●	●	●	●	●	2590	2.8	15.6	18.6	21.0	25.0	28.3	31.2	36.0	42.0	50.0	90°
	●	●	●	●	●	3070	3.1	18.7	22.3	25.2	30.0	34.0	37.4	43.2	50.4	60.0	70°
	●	●	●	●	●	3090	3.1	18.7	22.3	25.2	30.0	34.0	37.4	43.2	50.4	60.0	90°
	●	●	●	●	●	3570	3.4	21.8	26.0	29.4	35.0	39.6	43.6	50.4	58.8	70.0	70°
	●	●	●	●	●	3590	3.4	21.8	26.0	29.4	35.0	39.6	43.6	50.4	58.8	70.0	90°

● Standard type model number list (connecting threads: 1 to 2)

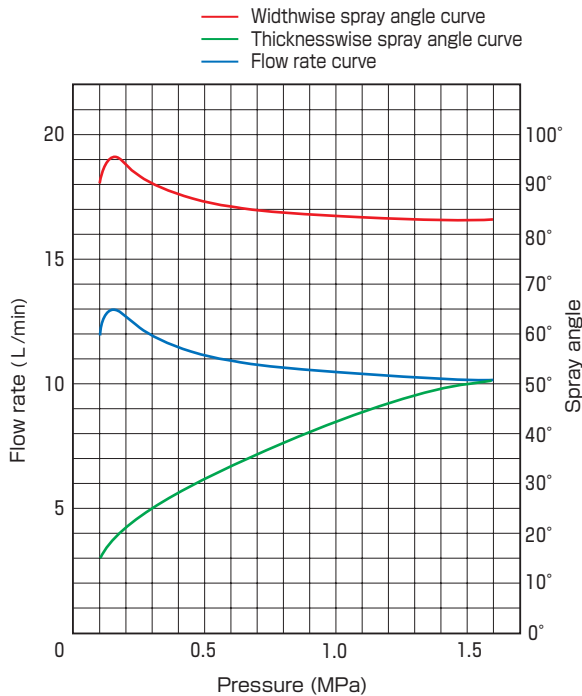
●: Model availability

Connecting threads	Model				Uniform distribution type	Model number	Minimum orifice diameter (mm)	Flow rate (L/min) at following pressure (MPa)								Spray angle at following pressure (MPa) (longer dia. direction)	
	R threads		Rc threads					0.1	0.15	0.2	0.3	0.4	0.5	0.7	1.0	1.5	0.3
	KSE ...	KSE ...S	KSE ...H	KSE ...HS													
1	●	●	●	●	4070	3.7	25.0	29.7	33.6	40.0	45.3	49.9	57.6	67.2	80.0	70°	
	●	●	●	●	4090	3.7	25.0	29.7	33.6	40.0	45.3	49.9	57.6	67.2	80.0	90°	
	●	●	●	●	5070	4.3	31.2	37.1	42.0	50.0	56.6	62.3	72.0	84.0	100	70°	
	●	●	●	●	5090	4.3	31.2	37.1	42.0	50.0	56.6	62.3	72.0	84.0	100	90°	
	●	●	●	●	6070	4.6	37.4	44.6	50.4	60.0	68.0	74.8	86.4	101	120	70°	
	●	●	●	●	6090	4.6	37.4	44.6	50.4	60.0	68.0	74.8	86.4	101	120	90°	
	●	●	●	●	7070	4.9	43.7	52.0	58.8	70.0	79.3	87.3	101	118	140	70°	
1 1/4	●	●	●	●	8070	5.2	49.9	59.4	67.3	80.0	90.6	99.7	115	134	160	70°	
	●	●	●	●	8090	5.2	49.9	59.4	67.3	80.0	90.6	99.7	115	134	160	90°	
1 1/2	●	●	●	●	10070	5.9	62.4	74.3	84.1	100	113	125	144	168	200	70°	
	●	●	●	●	10090	5.9	62.4	74.3	84.1	100	113	125	144	168	200	90°	
	●	●	●	●	12570	6.6	78.0	92.9	105	125	142	156	180	210	250	70°	
	●	●	●	●	12590	6.6	78.0	92.9	105	125	142	156	180	210	250	90°	
2	●	●	●	●	15070	7.2	93.6	111	126	150	170	187	216	252	300	70°	
	●	●	●	●	15090	7.2	93.6	111	126	150	170	187	216	252	300	90°	
	●	●	●	●	20070	8.4	125	149	168	200	227	249	288	336	400	70°	
	●	●	●	●	20090	8.4	125	149	168	200	227	249	288	336	400	90°	
	●	●	●	●	25070	9.4	156	186	210	250	283	312	360	420	500	70°	
	●	●	●	●	25090	9.4	156	186	210	250	283	312	360	420	500	90°	
	●	●	●	●	30070	10.3	187	223	252	300	340	374	432	504	600	70°	
	●	●	●	●	30090	10.3	187	223	252	300	340	374	432	504	600	90°	

● Performance data

Characteristic curves

Nozzle model number 1/4 KBE 0590HU



Flow distribution

Nozzle model number 1/4 KBE 0590HU  
Spray distance 300mm

