

# Accessories——Silencers

## NBSL, NBSLM, NBESL, BSL, BSLM, BESL, PAL, PALM series



### Ordering code

#### NBSL 1/4

①

②

##### ① Silencer Type

NBSL: Universal silencer  
NBSLM: Mini Silencer  
NBESL: Throttling Silencer

##### ② Thread connection

U10: #10-32 UNF  
1/8: NPT1/8  
1/4: NPT1/4  
3/8: NPT3/8  
1/2: NPT1/2

#### BSL 01

①

②

##### ① Silencer Type

BSL: Universal silencer  
BSLM: Mini Silencer  
BESL: Throttling silencer  
PAL: Plastic silencer  
PALM: Mini plastic Silencer

##### ② Thread connection

M5: M5X0.8  
01: PT1/8  
02: PT1/4  
03: PT3/8  
04: PT1/2

### Configuration table of tubing thread

Product series	Thread connection				
	#10-32 UNF	NPT1/8	NPT1/4	NPT3/8	NPT1/2
NBSL/NBSLM	•	•	•	•	•
NBESL		•	•	•	•

Product series	Thread connection				
	M5	PT1/8	PT1/4	PT3/8	PT1/2
BSL/BSLM	•	•	•	•	•
BESL/PAL		•	•	•	•
PALM		•	•		

### Specification

Model	NBSLU10	NBSL1/8	NBSL1/4	NBSL3/8	NBSL1/2	NBSLMU10	NBSLM1/8	NBSLM1/4	NBSLM3/8	NBSLM1/2
Thread connection	#10-32 UNF	NPT1/8	NPT1/4	NPT3/8	NPT1/2	#10-32 UNF	NPT1/8	NPT1/4	NPT3/8	NPT1/2
Silencing effect(dB)(0.5MPa)	13	13	13	13	13	13	13	13	13	13
Model							NEBSL1/8	NEBSL1/4	NEBSL3/8	NEBSL1/2
Thread connection							NPT1/8	NPT1/4	NPT3/8	NPT1/2
Silencing effect(dB)(75psi)							13	13	13	13
Operating pressure	0~10kgf/cm <sup>2</sup> (0~1.0MPa)									
Negative pressure	-750mmHg(10Torr)									
Proof pressure	215psi(1.5MPa)									
Temperature range	-5~160°F(-20~70°C)									

Model	BSLM5	BSL01	BSL02	BSL03	BSL04	BSLMM5	BSLM01	BSLM02	BSLM03	BSLM04
Thread connection	M5×0.8	PT1/8	PT1/4	PT3/8	PT1/2	M5×0.8	PT1/8	PT1/4	PT3/8	PT1/2
Silencing effect(dB)(0.5MPa)	13	13	13	13	13	13	13	13	13	13
Model	BESL01	BESL02	BESL03	BESL04	PAL01	PAL02	PAL03	PAL04	PALM01	PALM02
Thread connection	PT1/8	PT1/4	PT3/8	PT1/2	PT1/8	PT1/4	PT3/8	PT1/2	PT1/8	PT1/4
Silencing effect(dB)(0.5MPa)	13	13	13	13	25	25	25	25	25	25
Operating pressure	0~10kgf/cm <sup>2</sup> (0~1.0MPa)									
Negative pressure	-750mmHg(10Torr)									
Proof pressure	1.5MPa									
Temperature range	-20~70°C									

## NBSL, NBSLM, NBESL, BSL, BSLM, BESL, PAL, PALM series

### Product feature

#### NBSL, NBSLM, NBESL, BSL, BSLM, BESL Series:

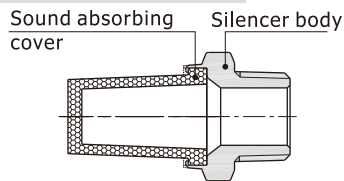
1. This silencers have excellent noise silencing performance.
2. The installation of the silencer is simple and convenient, and the connecting portion is reliable and durable.
3. It is easy to adjust the exhaust flow of the throttling type silencer.

#### PAL Series, PALM Series:

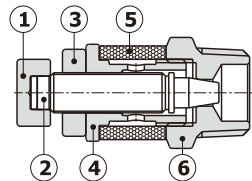
1. The silencer body is made of plastic.
2. The mini type silencer has the characteristics of small volume and compact structure.

### Inner structure

#### NBSL, BSL Series

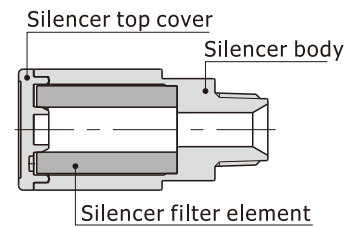


#### NBESL, BESL Series



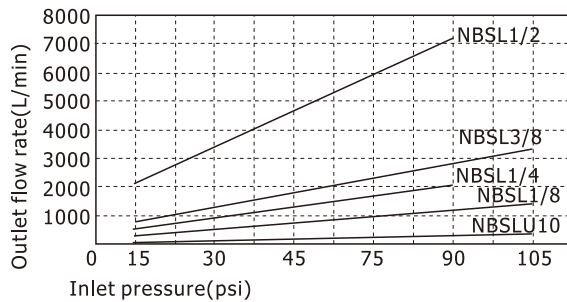
NO.	Name	NO.	Name
1	Adjusting cap	4	Locking ring
2	Throttling column	5	Silencer ring
3	Locking cap	6	Silencer body

#### PAL Series

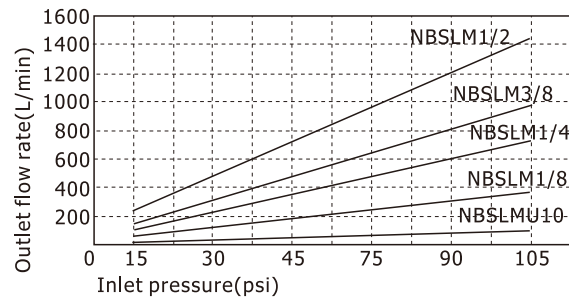


### Flowrate characteristic

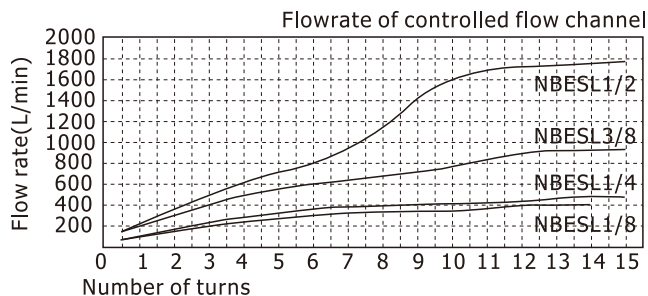
#### NBSL Series



#### NBSLM Series

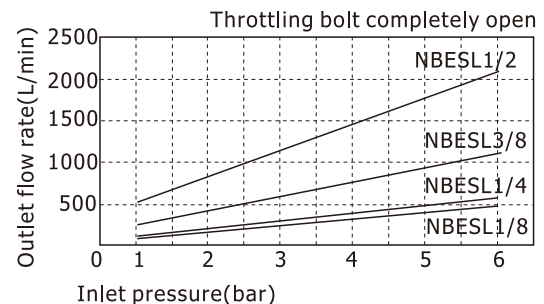


#### NBESL Series



#### NBESL Series

(Inlet pressure and outlet flow rate)

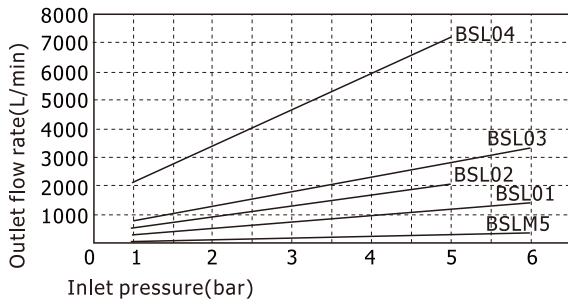


# Accessories—Silencers

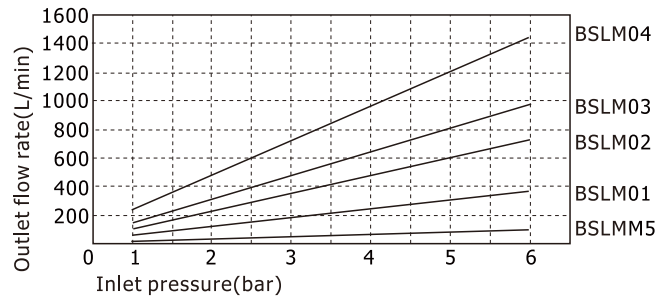
## NBSL, NBSLM, NBESL, BSL, BSLM, BESL, PAL, PALM series

### Flowrate characteristic

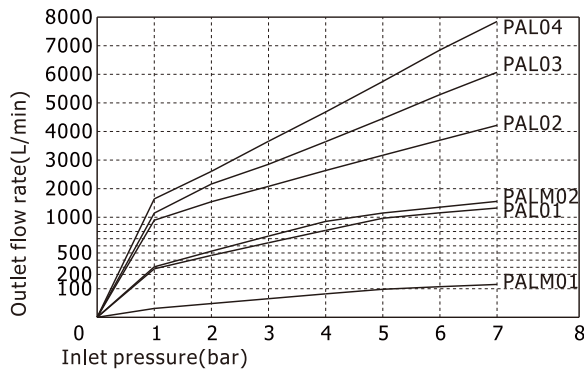
#### BSL Series



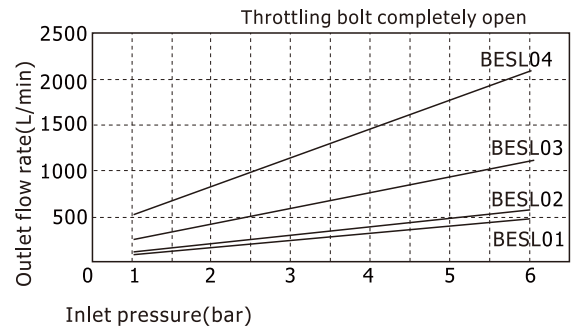
#### BSLM Series



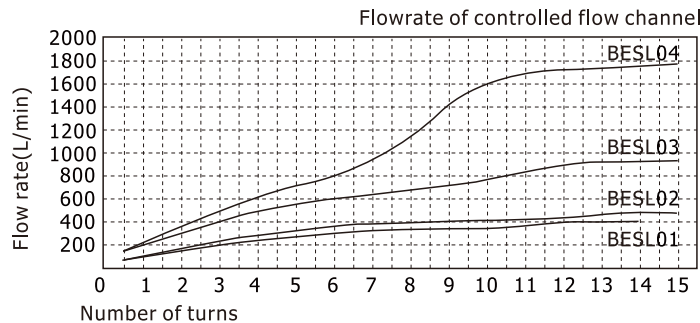
#### PAL, PALM Series



#### BESL Series (Inlet pressure and outlet flow rate)

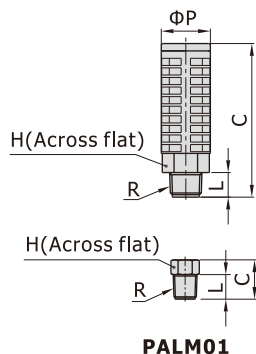


#### BESL Series



### Dimensions

#### PAL, PALM Series



[Unit: mm]

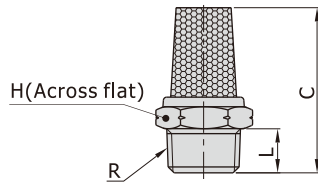
Model \ Item	R	$\Phi P$	L	C	H	Weight(g)
PAL01	PT1/8	16	7	33	14	4.2
PALM01	PT1/8	/	10	16	10	0.9
PAL02	PT1/4	20	10	62.5	17	10.7
PALM02	PT1/4	16	10	36	14	5.1
PAL03	PT3/8	26	12	68	24	20
PAL04	PT1/2	28	12	73	24	23.1

# Accessories——Silencers

## NBSL, NBSLM, NBESL, BSL, BSLM, BESL, PAL, PALM series

### NBSL Series

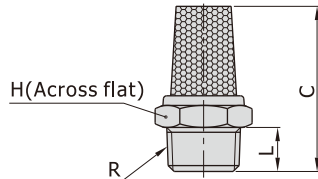
[Unit: inch]



Model\Item	R	L	C	H	Weight(g)
NBSLU10	#10-32 UNF	0.14	0.77	5/16	2.9
NBSL1/8	NPT1/8	0.24	0.94	1/2	7.1
NBSL1/4	NPT1/4	0.31	1.18	5/8	12.4
NBSL3/8	NPT3/8	0.35	1.52	3/4	22.0
NBSL1/2	NPT1/2	0.41	1.87	7/8	35.3

### BSL Series

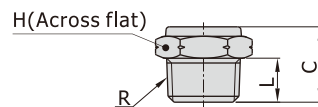
[Unit: mm]



Model\Item	R	L	C	H	Weight(g)
BSLM5	M5×0.8	3.5	19.5	8	2.9
BSL01	PT1/8	6	24	12	6.7
BSL02	PT1/4	8	30	15	11.6
BSL03	PT3/8	9	38.5	19	22
BSL04	PT1/2	10.5	46	22	35

### NBSLM Series

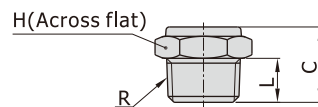
[Unit: inch]



Model\Item	R	L	C	H	Weight(g)
NBSLMU10	#10-32 UNF	0.14	0.37	5/16	2.3
NBSLM1/8	NPT1/8	0.24	0.43	7/16	4.3
NBSLM1/4	NPT1/4	0.31	0.53	5/8	9.2
NBSLM3/8	NPT3/8	0.35	0.61	3/4	15.8
NBSLM1/2	NPT1/2	0.41	0.81	7/8	26.3

### BSLM Series

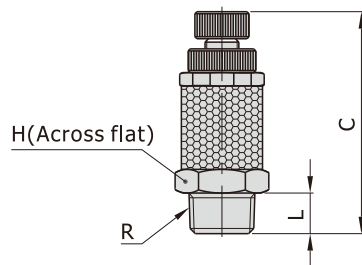
[Unit: mm]



Model\Item	R	L	C	H	Weight(g)
BSLMM5	M5×0.8	3.5	9.5	8	2.3
BSLM01	PT1/8	6	11	11	4.3
BSLM02	PT1/4	8	13.5	15	8.4
BSLM03	PT3/8	9	15.5	19	15.8
BSLM04	PT1/2	10.5	19	22	25.9

### NBESL Series

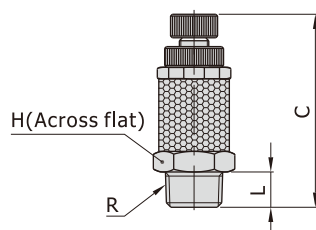
[Unit: inch]



Model\Item	R	L	C	H	Weight(g)
NBESL1/8	NPT1/8	0.24	0.94	1/2	10.4
NBESL1/4	NPT1/4	0.31	1.18	9/16	18.4
NBESL3/8	NPT3/8	0.35	1.52	11/16	31.7
NBESL1/2	NPT1/2	0.41	1.81	15/16	69.4

### BESL Series

[Unit: mm]



Model\Item	R	L	C		H	Weight(g)
			max	min		
BESL01	PT1/8	6	40.5	33	12	10
BESL02	PT1/4	8	42.5	35	14	18.1
BESL03	PT3/8	9	49	41.5	17	31.1
BESL04	PT1/2	10.5	59.5	52	24	69.8



## PPA Series



### Ordering code

Ordering code of valves

**PPA 6**

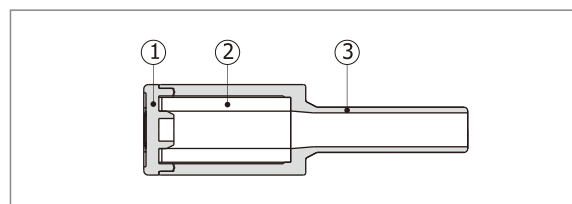
① ②

① Silencer Type	② Thread connection
PPA: Plug-in Silencer	6: $\Phi 6$ 8: $\Phi 8$ 10: $\Phi 10$ 12: $\Phi 12$

### Specification

Model	PPA6	PPA8	PPA10	PPA12
Silencing effect(dB)(0.5MPa)	25	25	25	25
Operating pressure	0 ~ 10kgf/cm <sup>2</sup> (0 ~ 1.0MPa)			
Negative pressure	-750mmHg(10Torr)			
Proof pressure	1.5MPa			
Temperature range	-20 ~ 70°C			

### Inner structure and material of major parts

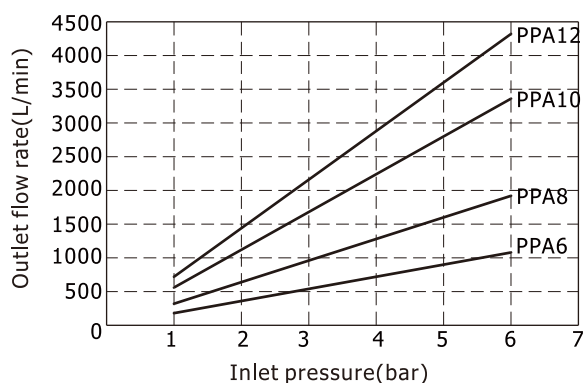


### Product feature

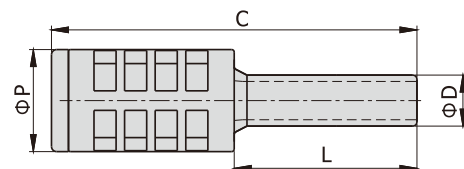
1. Full resin, excellent noise reduction and suitable for copper free environment.
2. Plug-in design, mount quickly and easily.

NO.	Name	Material
1	Cap	POM
2	Silencer filter	PE
3	Body	POM

### Flowrate characteristic



### Dimensions



[Unit: mm]

Model\Item	C(Lenght)	D	L	P	Weight(g)
PPA6	43	6	21.5	12	2.0
PPA8	45	8	23	14	2.9
PPA10	61.5	10	26	16	5.3
PPA12	71.5	12	28	20	9.8