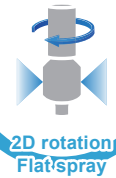


For cleaning easy to remove dirt

ES SERIES / Metal / Self-cleaning, Easy Maintenance



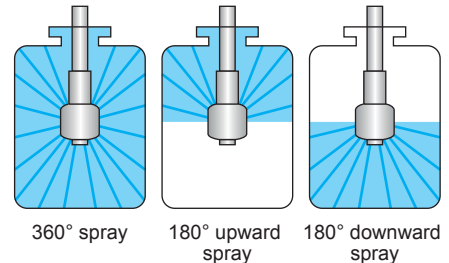
Cleaning easy to remove dirt



Innovative slit design eliminates blind spots and self-cleaning function.

Spray Coverage

Select from three patterns.



Note: ES with 180° upward spray has two holes in the bottom of the nozzle body (rotating part) for drainage.

Features

- No external power is needed as rotation is driven solely by the flow of the cleaning liquid.
- Maintenance is easy due to the low parts count.
- Internal design greatly reduces dripping from the nozzle tip. Maintains high level of cleanliness because it is self-cleaning.
- ES series can be installed in any direction, vertically, horizontally or diagonally.
- Available in two types of connections: thread connection (ES-N) and pin connection (ES-P).

Applications

- Cleaning of a variety of tanks, such as mixing, blending, and storage tanks
- CIP cleaning
- Cleaning the inside of conveyor tunnels and ovens

Basic Specifications

■ Operating Pressure Range 0.1–1.0 MPa (15–145 psi)	■ Material ¹ Metal parts: S316L Shaft bearings: PTFE
■ Spray Capacity ² 4.0–803.3 L/min	■ Weight ³ 20–1,820 g
■ Reach Distance of Spray (Diameter) Approx. 0.5–7.3 m	■ Rotation Speed (at 0.3 MPa) ⁴ 60–120 rpm
■ Max. Temperature 60°C (140°F)	■ Outer Surface Finish #320 buffing

¹In the material code, "S" represents "stainless steel".

²Spray flow rate in the above operating pressure range. See the flow-rate diagrams and chart for details.

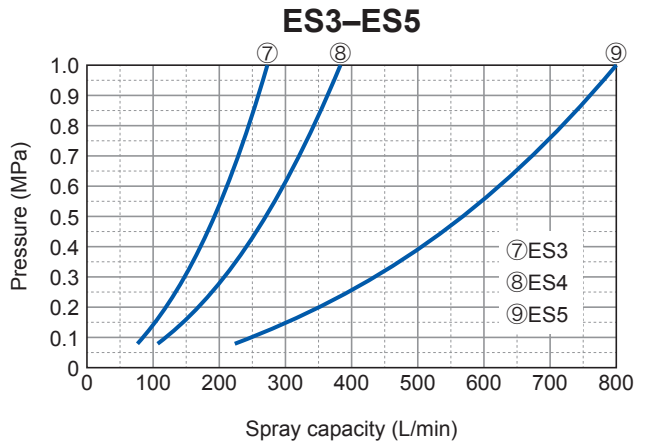
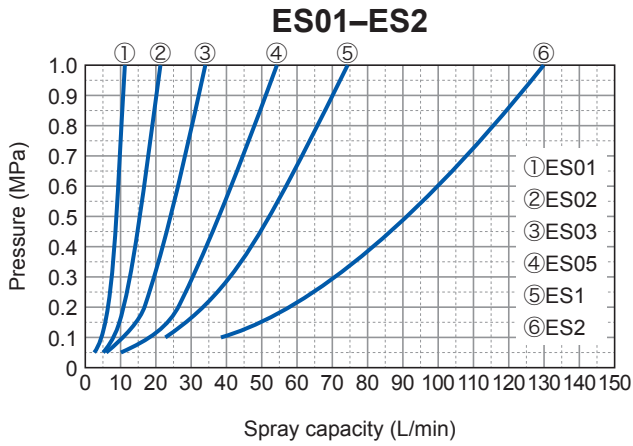
³See the table in the drawing section.

⁴For reference only. Rotation speed varies depending on the pressure applied.

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Flow-rate Diagram

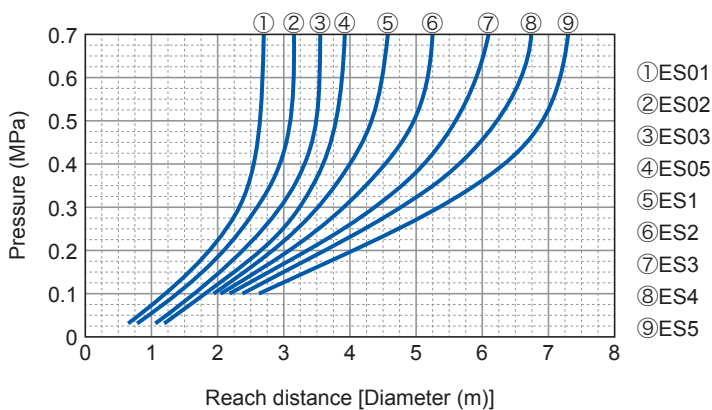


Flow-rate Chart

Spray capacity code	Pipe connection size ⁵		Spray capacity (L/min)				
	[ES-N] Thread connection	[ES-P] Pin connection	0.1 MPa	0.3 MPa	0.5 MPa	0.7 MPa	1.0 MPa
01	Rc1/8	∅10	4.0	7	9.0	10.7	12.8
02	Rc1/8	∅13	7.5	13	16.8	19.9	23.7
03	Rc1/4	∅17	11.5	20	25.8	30.6	36.5
05	Rc3/8	∅21	17.9	31	40.0	47.4	56.6
1	Rc3/8	∅21	24.2	42	54.2	64.2	76.7
2	Rc1/2	∅25	40.4	70	90.4	106.9	127.8
3	Rc3/4	∅38	86.6	150	193.6	229.1	273.9
4	Rc1	∅38	121.2	210	271.1	320.8	383.4
5	Rc1½	∅50	254.0	440	568.0	672.1	803.3

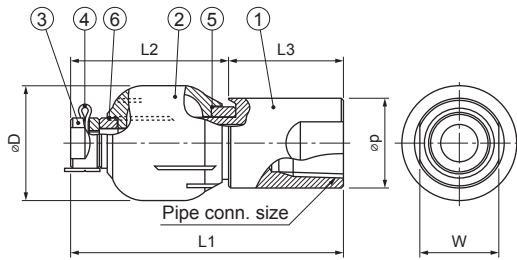
⁵As for the ES-P, it only indicates the connection code, not an exact pin size or pipe diameter. For details see the drawing and dimension table on page 14.

Reach Distance of Spray

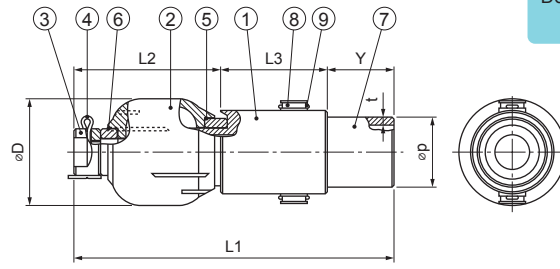


Drawing

ES-N
(Thread connection)



ES-P
(Pin connection)



Download 3D/2D CAD file

- ①Connecting adaptor ②Nozzle body (rotating part) ③Hub ④Lock pin ⑤Upper shaft bearing (PTFE)
⑥Lower shaft bearing (PTFE) ⑦Welded connecting pipe ⑧Connecting pin ⑨Side pin

■Dimensions and weight

Spray capacity code	Pipe connection code and size		Outer dimensions (mm)							Weight (g)	
			L1	L2	L3	W	øD	Y	øp		t
01	N (thread)	Rc1/8	38	22	16	11	16	—	12.5	—	20
	P (pin)	6A (ø10.5)	48			—		10	10.5	1.2	25
02	N (thread)	Rc1/8	53	28.5	24.5	12	20	—	13	—	35
	P (pin)	8A (ø13.8)	73			—		20	13.8	1.2	50
03	N (thread)	Rc1/4	65	35	30	16.5	25	—	18	—	75
	P (pin)	10A (ø17.3)	90			—		25	17.3	1.5	90
05	N (thread)	Rc3/8	97	52	45	20	30	—	22	—	155
	P (pin)	15A (ø21.7)	127			—		30	21.7	1.5	210
1	N (thread)	Rc3/8	115	60	55	20	31.5	—	22	—	185
	P (pin)	15A (ø21.7)	145			—		30	21.7	1.5	235
2	N (thread)	Rc1/2	123	68	55	23	41.5	—	25	—	260
	P (pin)	1S (ø25.4)	153			—		30	25.4	1.5	315
3	N (thread)	Rc3/4	139	79	60	23	60	—	35	—	605
	P (pin)	1.5S (ø38.1)	174			—		35	38.1	1.5	660
4	N (thread)	Rc1	163	93	70	37.6	75	—	40	—	925
	P (pin)	1.5S (ø38.1)	198			—		35	38.1	1.5	1,060
5	N (thread)	Rc1½	180	105	75	52	88	—	55	—	1,640
	P (pin)	2S (ø50.8)	225			—		45	50.8	1.5	1,820

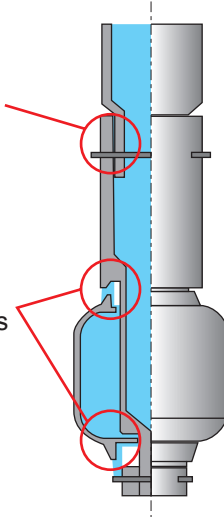
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Internal Design

The ES-P, pin connection model, is very clean since there are no threads in the flow passage where contaminants could collect.

In both models, the ES-N and ES-P, the cleaning liquid flows from openings between the connecting adaptor and nozzle body (rotating part), keeping the nozzle surface clean.



HOW TO ORDER

To inquire about or order a specific product please refer to this coding system.

Example: 1/8F ES 01 N S316L (360)

1/8F	ES	01	N	S316L	(360)
Pipe Conn. Size ^{5, *6}		Spray Capacity Code	Connection Code		Spray Coverage Pattern
<ul style="list-style-type: none"> ■ 1/8F ■ ø10 ■ 1/4F ■ ø13 ■ 3/8F ■ ø17 ■ 1/2F ■ ø21 ■ 3/4F ■ ø25 ■ 1F ■ ø38 ■ 1*1/2F ■ ø50 		<ul style="list-style-type: none"> ■ 01 ■ 02 ■ 03 ■ 05 ■ 1 ■ 2 ■ 3 ■ 4 ■ 5 	<ul style="list-style-type: none"> ■ N (thread connection) ■ P (pin connection) 		<ul style="list-style-type: none"> ■ 360 ■ 180 upward ■ 180 downward

^{*6} "F" indicates female tapered pipe thread ("Rc" of the ISO standard), e.g. 1/4F = Rc1/4.