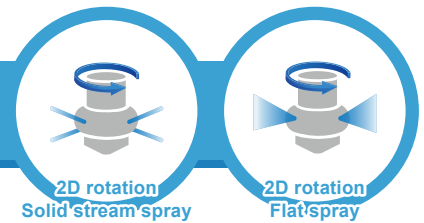
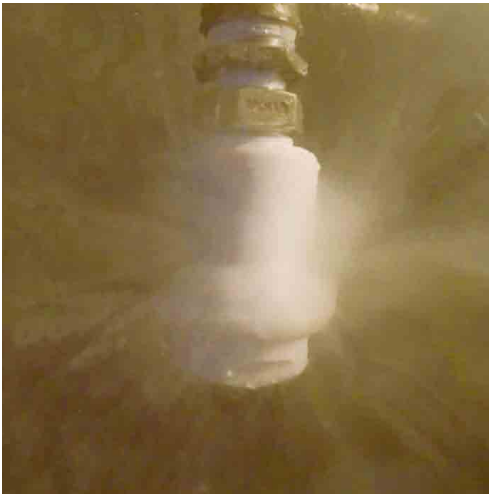


For cleaning easy to remove dirt

ES/ESV-PTFE SERIES / Resistant to Chemicals

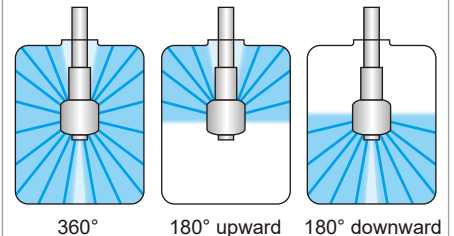


Cleaning easy
to remove dirt



Spray Coverage Direction

Select from three patterns for the ES.
The ESV is only available for the 360° pattern.



Note: Surfaces directly above and below the nozzle may not be fully covered in some installations.

Features

- Made of PTFE, highly resistant to chemicals.
- Rotating flat spray pattern covers the entire surface in a tank (ESV series).
- ES/ESV-PTFE series can be installed in any direction, vertically, horizontally or diagonally.
- No external power is needed as rotation is driven solely by the flow of the cleaning liquid.

Applications

- Cleaning of chemical tanks, containers, filling machines, can be used with acid or alkali cleaner.

Basic Specifications

Operating Pressure Range
0.05–0.5 MPa (8–70 psi)

Material¹
PTFE

Spray Capacity²
12.2–258 L/min

Weight
Pipe conn. size Rc1/2: 130 g
Pipe conn. size Rc3/4: 180 g

Reach Distance of Spray (Diameter)
ES: approx. 1.5–4 m
ESV: approx. 1.1–4.2 m

Rotation Speed
N/A

Max. Temperature
93°C (199°F)

¹ Also available in carbon-graphite-filled PTFE as a custom option.

² Spray flow rate in the above operating pressure range is for reference only. See the flow-rate diagram and chart for more details.

▼ Watch rotating & spraying nozzle on YouTube

ES-PTFE



IKEUCHI ES-PTFE

ESV-PTFE



IKEUCHI ESV

Quick Guide: Differences
Between ES and ESV



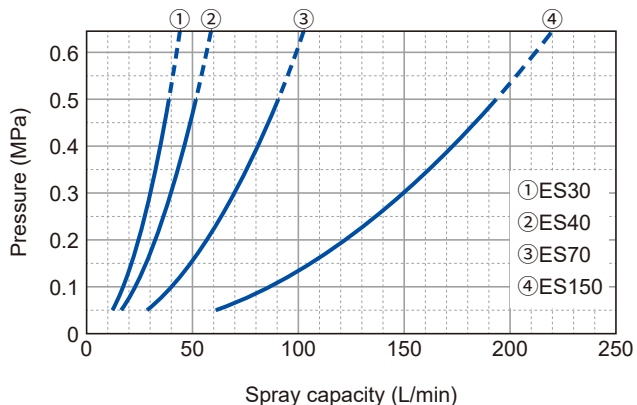
IKEUCHI ESV FAQ

ES-PTFE, ESV-PTFE SERIES

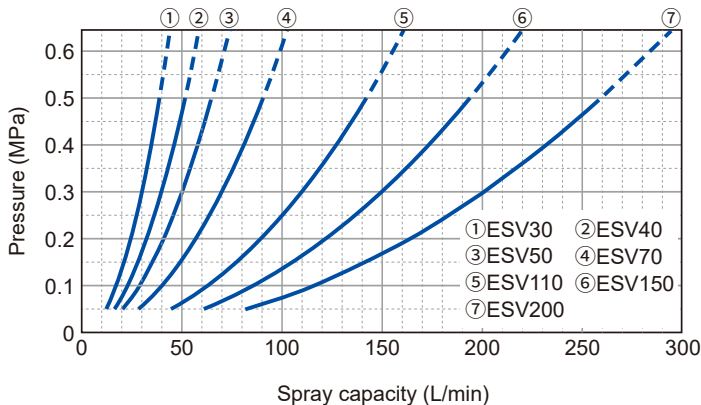
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Flow-rate Diagram

ES30-ES150



ESV30-ESV200



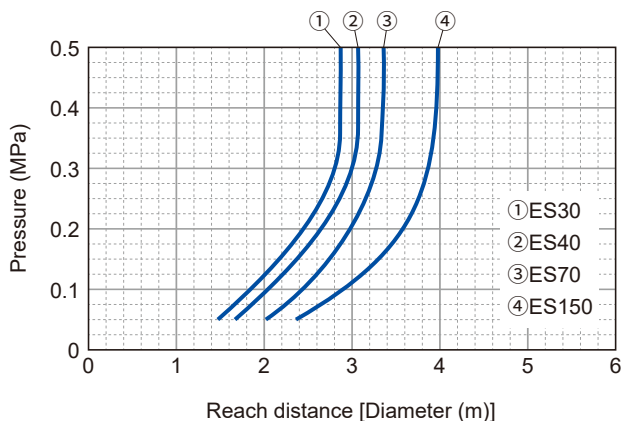
Flow-rate Chart

Series		Spray capacity code	Pipe conn. size	Spray capacity (L/min) [for reference only]					
ES	ESV			0.05 MPa	0.1 MPa	0.2 MPa	0.3 MPa	0.4 MPa	0.5 MPa
○	○	30	Rc1/2	12.2	17.3	24.5	30.0	34.6	38.7
○	○	40	Rc1/2	16.3	23.1	32.7	40.0	46.2	51.6
—	○	50	Rc1/2	20.4	28.9	40.8	50.0	57.7	64.6
○	○	70	Rc3/4	28.6	40.4	57.2	70.0	80.8	90.4
—	○	110	Rc3/4	44.9	63.5	89.8	110	127	142
○	○	150	Rc3/4	61.2	86.6	123	150	173	194
—	○	200	Rc3/4	81.7	116	163	200	231	258

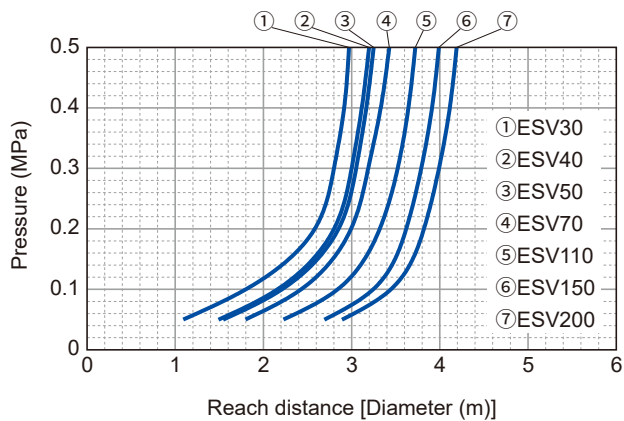
○ shows availability of the item.

Reach Distance of Spray

ES30-ES150



ESV30-ESV200

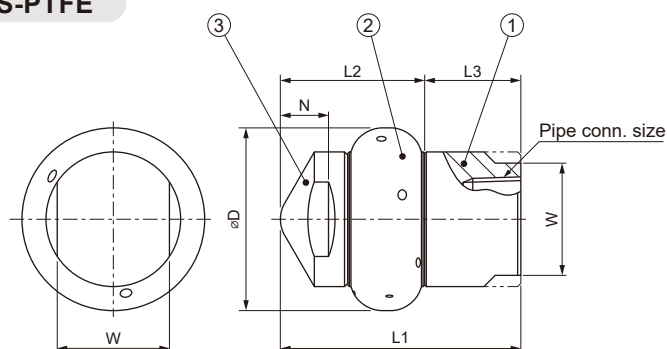


ES-PTFE, ESV-PTFE SERIES

Cleaning easy
to remove dirt

Drawing

ES-PTFE

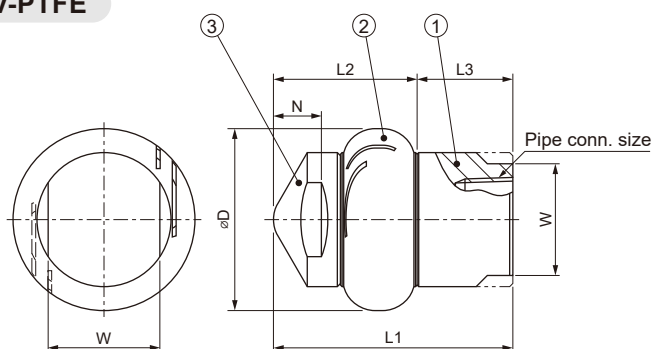


- ① Connecting adaptor
- ② Nozzle body (rotating part)
- ③ Hub



Download 3D/2D
CAD file

ESV-PTFE



- ① Connecting adaptor
- ② Nozzle body (rotating part)
- ③ Hub

■ Dimensions and weight

Series	Pipe conn. size	Outer dimensions (mm)						Weight (g)
		L1	L2	L3	W	$\varnothing D$	N	
ES	Rc1/2	65	41	24	30	50	14	130
	Rc3/4	75	45	30	35	57	15	180
ESV	Rc1/2	65	41	24	30	50	12	130
	Rc3/4	75	45	30	35	57	15	180

HOW TO ORDER

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

ES-PTFE

Example: 1/2F ES 30 N PTFE (360)

1/2F ES 30 N PTFE (360)

Pipe
Conn.
Size³

■ 1/2F ■ 30 ■ 40
■ 3/4F ■ 70 ■ 150

Spray
Capacity
Code

■ 360 ■ 180 upward ■ 180 downward

Spray
Coverage
Pattern

■ 360
■ 180 upward
■ 180 downward

ESV-PTFE

Example: 1/2F ESV 30 N PTFE (360)

1/2F ESV 30 N PTFE (360)

Pipe
Conn.
Size³

■ 1/2F ■ 30 ■ 40 ■ 50
■ 3/4F ■ 70 ■ 110
..... ■ 150 ■ 200

Spray
Capacity
Code

■ 360 ■ 180 upward ■ 180 downward

³ "F" indicates female tapered pipe thread ("Rc" of the ISO standard), e.g. 1/2F = Rc1/2.

Basic Information

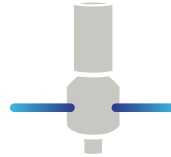
Spray Pattern

01

There are two different types of tank cleaning nozzles, based on their spray patterns: the "solid stream spray" nozzle which sprays the cleaning liquid in a straight single stream, and the "flat spray" nozzle with a flat fan shaped spray pattern.

In general, the solid stream spray nozzle is used for cleaning hard-to-remove and stubborn dirt, the flat spray nozzle is for cleaning dirt that is easily removable.

Note: Direct spray may not cover areas directly above and below the nozzle, but reflected flow can aid cleaning. Results vary depending on tank geometry and installation conditions.



Solid stream spray nozzles

This nozzle sprays the cleaning liquid in a straight single stream.

Use for: •Removing tough, sticky dirt
•Cleaning off hard to remove dirt



Flat spray nozzles

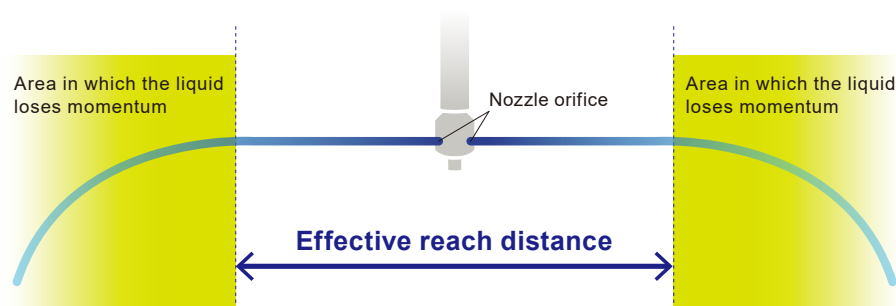
This nozzle sprays the cleaning liquid in a flat fan shaped pattern.

Use for: •Washing large surfaces quickly
•Cleaning off dirt that is easily removable

Reach Distance of Spray

02

The reach distance of spray is the linear distance from the orifice of the nozzle to the point where the spray loses momentum and effectiveness. In other words, it represents not just how far the spray can reach, but the distance at which the spray force remains effective for cleaning.



The illustration shows a solid stream spray nozzle.
For the RJ series group, including RJ3-MD and RJ3-GEMD, the effective cleaning distance extends beyond the regular reach distance and is given as a radius measurement.

Nozzle Rotation

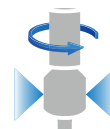
03

Tank cleaning nozzles are classified into three types, based on their rotation specifications: "3D Rotation" (three-dimensional rotation), "2D Rotation" (two-dimensional rotation), and "Fixed".



3D Rotation

Dual rotary drives enable 360° rotation with strong cleaning power.



2D Rotation

Uses one rotary drive. Quick cleaning of a large area.



Fixed

No rotary drive or moving parts that can fail or cause wear debris and therefore less downtime for maintenance.

Clog Prevention (Strainer and Flushing the Piping)

04

Clogging can cause malfunction and damage to the product. Be sure to flush the pipe system thoroughly before installing the nozzle to remove dust and debris.

Regardless of the type of cleaning liquid, whether it is used once or can be reused multiple times, it should always run through a strainer to prevent the nozzle from clogging.

Refer to the table on the right for details.

Note: Depending on cleaning liquid type and quality, use a finer mesh strainer or install a filter cartridge to prevent deposits of foreign particles.

Series	Recommended mesh size for the strainer
SR	#200 or more
ES, ESV, RJ (Rc1/2 thread), RJ2-PON	#100 or more
RJ (Thread size > Rc1/2), RJ3-MD(-L), RJ3-GEMD, JA	#50 or more
SWB	#40 or more

Contact us for custom-made models.

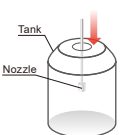
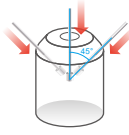
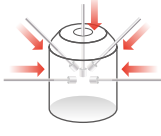
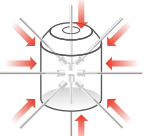
Nozzle Mounting Direction

05

In general, our tank cleaning nozzles are designed with the presumption that they are inserted and installed downward at the top of the tank.

Installing the nozzle sideways and upward at the side or bottom of the tank may result in distortion of the rotary shaft or faulty installation which may cause problems with the operation.

Some series, however, are designed so they can be installed in other directions, please refer to the table on the right.

Series	Mounting direction	Series	Mounting direction
SR	 Only install vertically downward	JA3, JA3-D180	 Can be installed downward within 45° of the vertical center
RJ	 Can be installed downward or sideways (within 90° of the vertical center)	ES, ESV, JA2	 Can be installed in any direction 360°

Note: The data in this catalog are based on nozzles installed downward at the top of the tank.

Pre-Shipment Inspection

06

All of IKEUCHI's tank cleaning nozzles undergo the following inspections before being shipped, to ensure complete customer satisfaction.

Rotation

The rotation speed at the specified pressure is checked. The ES/ESV-PTFE series are checked for their smooth rotation since their rotation speed is too fast to measure.

Spray Flow Rate

The flow rate is checked if it meets IKEUCHI's spray capacity standard set for each series.