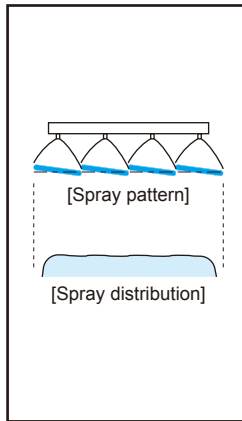
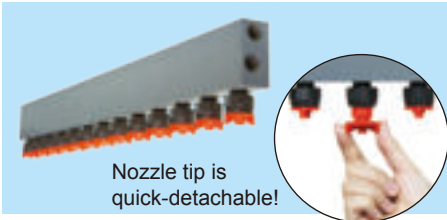
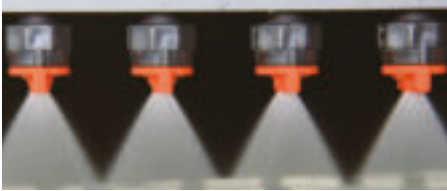


High Impact Spray Header with Quick-Detachable Nozzles

INVVEA



- Integrated spray header equipped with INVVEA series nozzles producing semi-fine atomization with a mean droplet diameter of 50 μm or more.*1
- Provides the same performance as VVEA: high spray impact and uniform distribution with thin flat spray pattern.
- Ideal for washing away particles with fine fog spray.
- Quick-detachable nozzle tip design helps to greatly reduce maintenance time.
- Made of highly chemical-resistant plastic.
- Nozzle tips are color-coded by spray capacity for easy identification.

*1) Droplet diameter measured by laser Doppler method

APPLICATIONS

- Cleaning: Liquid crystal glass substrate, PC boards
- Etching

DRAWING The drawings below are just a few examples. Dimensions and pipe connection sizes differ depending on the nozzle code, nozzle quantity, nozzle spacing, and other requirements. For details please ask for our inquiry drawing.

*2) The number of mounting screws required increases as the total length gets longer.

*3) The mounting screws should be placed between the nozzles to avoid interference.

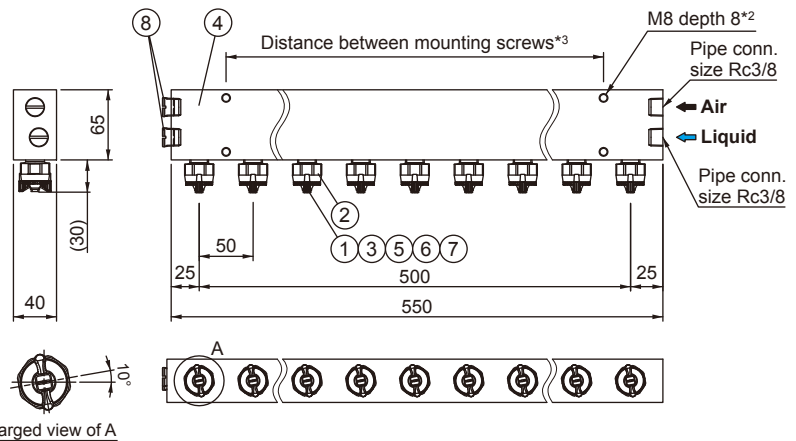
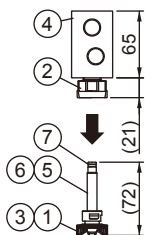
*4) When the total length is more than 1,000 mm, two or more headers are combined into one INVVEA Header.

Total length: 1,000 mm or less (available from 150 mm in total length)

Example) INVVEA6010PP+PPS+11(P50)550(10°)HTPVC

Space required to remove a nozzle tip

To detach a nozzle tip set of component# 1+3+5+6+7 from the header for replacement or maintenance, a space of 93 mm and more is required in the vertical downward direction.

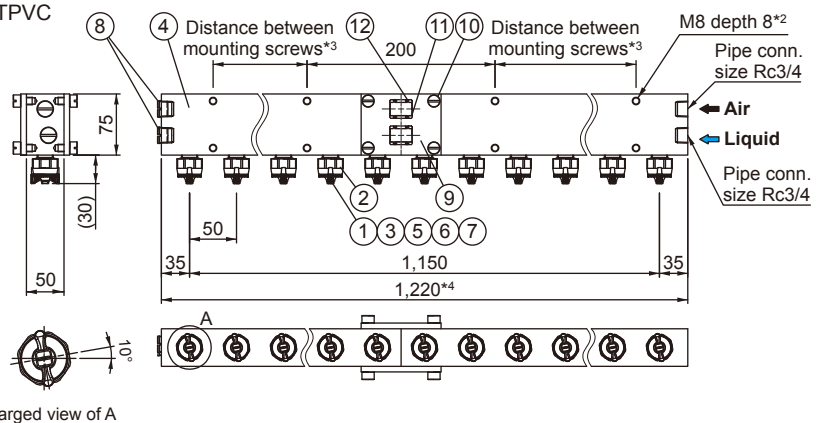
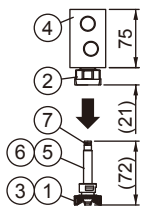


Total length: 1,000 mm or more

Example) INVVEA6010PP+PPS+24(P50)1220(10°)HTPVC

Space required to remove a nozzle tip

To detach a nozzle tip set of component# 1+3+5+6+7 from the header for replacement or maintenance, a space of 93 mm and more is required in the vertical downward direction.



COMPONENTS AND MATERIALS

No.	Components	Standard materials	No.	Components	Standard materials
1	Nozzle tip	PP	7	O-ring	FEPM equivalent
2	Adaptor	PPS	8	Plug	HTPVC
3	Packing	FEPM equivalent	9	Plate	HTPVC
4	Header	HTPVC	10	Bolt	HTPVC
5	Mixing adaptor	PP	11	Joint	HTPVC
6	O-ring	FEPM equivalent	12	O-ring	FEPM equivalent

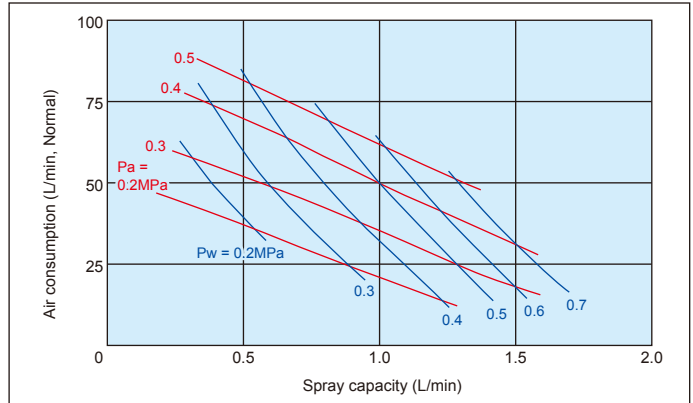
Unit: mm

FLOW-RATE DIAGRAMS

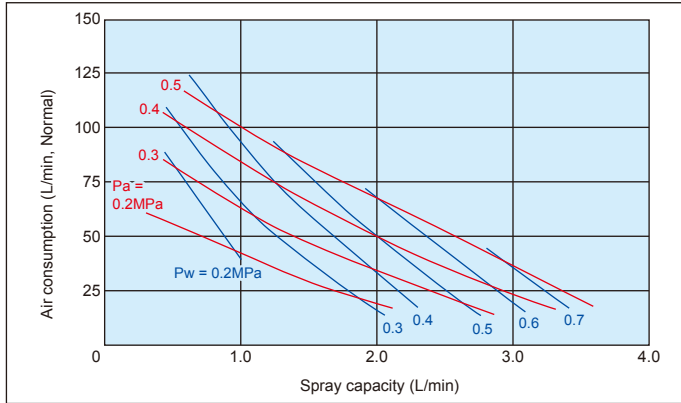
■ How to read the chart

1. The spray capacity shown is for one nozzle.
2. **Red lines** (—) represent compressed air pressures Pa in MPa.
Blue lines (—) represent liquid pressures Pw in MPa.
Green lines (—) represent air-water ratio Qa/Qw.

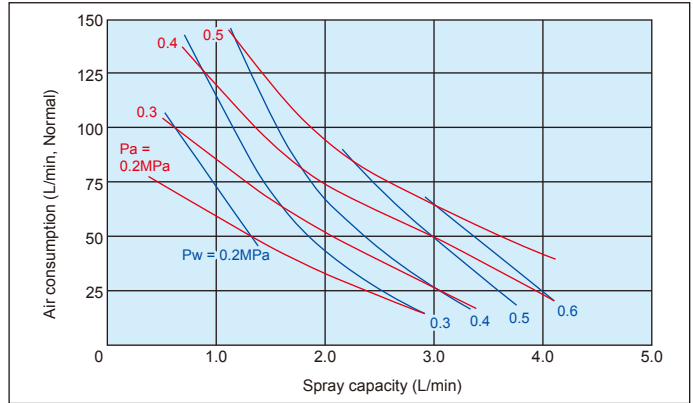
■ **INVVEA6010**



■ **INVVEA6020**



■ **INVVEA6030**



PERFORMANCE DATA

Spray angle code *5	Spray capacity code	Air pressure (MPa)	Spray capacity (L/min) & Air consumption (L/min, Normal)						Mean droplet diameter (µm)	Free passage diameter (mm)			Color of nozzle tip	
			Liquid pressure (MPa)							Laser Doppler method	Tip orifice	Adaptor		
			0.2		0.3		0.5					Liquid		Air
60	10	0.2	0.54	36	0.90	24	—	—	20–250	1.4	1.1	1.3	Red	
		0.3	0.30	58	0.60	49	1.28	25						
		0.4	—	—	0.39	74	1.00	50						
	20	0.2	0.96	44	1.98	18	—	—	30–300	1.5	1.6	1.6		
		0.3	0.53	81	1.10	59	2.63	19						
		0.4	—	—	0.53	104	2.00	50						
	30	0.2	1.34	50	—	—	—	—	40–400	1.6	1.9	1.9		
		0.3	0.63	100	1.60	64	—	—						
		0.4	—	—	0.88	128	3.00	50						
		0.5	—	—	—	—	—							
		0.5	—	—	—	—	2.25	85						

*5) Spray angle measured at compressed air pressure 0.4 MPa and liquid pressure of 0.5 MPa.

HOW TO ORDER

To determine the specifications, please specify a spray capacity code, nozzle quantity, nozzle spacing and more, using this coding system.

<Example> INVVEA 6010 PP + PPS + 11 (P50) 550 (10°) HTPVC

INVVEA	60	10	PP +	PPS +	11	(P 50)	550	(10°)	HTPVC
	Spray angle code	Spray capacity code	Material of nozzle tip	Material of adaptor	Nozzle quantity	Nozzle spacing	Total length	Offset angle	Material of header
		■10 ■20 ■30						■10° ■0° (Blank denotes 0°.)	

For details please ask for our inquiry drawing.