2 Port Solenoid Valve
VQ20/30 Series
Single Unit

How to Order Valves

VQ 2 1 A 1 – 1 G □ □ – C6 – □ – □ – □

Series/ Orifice diameter

Symbol	Series
2	VQ20
3	VQ30

Valve type

1	N.C. 2 (OUT), 1 (IN)

When the valve is closed, flow is blocked from port 1 to port 2. However, if the pressure in port 2 is higher than port 1, the valve will not be able to block the fluid and it will flow from port 2 to port 1.

Body type

A: Single unit	
M: For manifold	

Coil voltage

1	100 VAC (50/60 Hz)
2	200 VAC (50/60 Hz)
3	110 VAC (50/60 Hz)
4	220 VAC (50/60 Hz)
5	24 VDC
6	12 VDC
9	Other special voltage

Note 1) There is polarity for DC voltage (with power-saving circuit type).

Electrical entry

G: Grommet	
Y: DIN terminal	
YO: DIN terminal without connector	

Manual override

Nil	None
B Note)	Slotted locking type (tool required)

Note) Only normally closed DIN terminal in-line type is applicable.

Electricity circuit

Symbol	DC voltage	AC voltage
Nil	With power-saving circuit (With surge voltage suppressor protection circuit)	With full wave rectifier circuit (With surge voltage suppressor protection circuit)
Z	With power-saving circuit (With light/surge voltage suppressor protection circuit)	With full wave rectifier circuit (With light/surge voltage suppressor protection circuit)
H Note)	High speed response type (Without energy-saving, light/surge voltage suppressor circuit)	

Note) H is available only for DC voltage and cannot be energized continuously.

Option

Nil: None	
F: With bracket	
L: Type L (VQ20 only)	

Note) If ordering both options, indicate "LF".

Port size

Symbol	Port size	VQ20	VQ30
C6	One-touch fitting for ø6	○	—
C8	One-touch fitting for ø8	○	—
C10	One-touch fitting for ø10	—	○
C12	One-touch fitting for ø12	—	○

CE/UKCA-compliant

Nil	—
Q	CE/UKCA-compliant

Made to Order specifications
(Refer to the table below)

Made to Order Specifications

Oil-free specifications

VQ$^{2}_{3}$1$^{A}_{M}$1– □□□ – □□ – □ –X2(-Q)

Seal material fluororubber specifications

VQ$^{2}_{3}$1$^{A}_{M}$1– □□□□ – □□ – □ –X5(-Q)

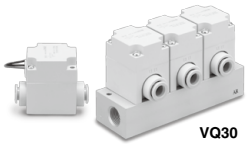
Seal material fluororubber/oil-free specifications

VQ$^{2}_{3}$1$^{A}_{M}$1– □□□ – □□ – □ –X23(-Q)

Note) Not available for manual operation.

Pilot Operated 2 Port Solenoid Valve for Dry Air *VQ20/30 Series*

VQ20

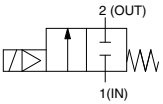


VQ30

Standard Specifications

			VQ20	VQ30
Valve specifications	Series			
	Valve construction		2 port poppet pilot operated	
	Fluid		Air	
	Ambient and fluid temperature		–10 to 50°C	
	Lubrication		Not required	
	Manual override		Slotted locking type (tool required)	
	Impact resistance/Vibration resistance		150/30 m/s²	
	Enclosure		Dustproof	
	Internal leakage cm³/min		15 or less	
	Exterior leakage cm³/min		15 or less	
	Mounting orientation		Unrestricted	
	Weight		46 g	80 g
Electric specifications	Coil rated voltage		12 VDC, 24 VDC, 100 VAC, 110 VAC, 200 VAC, 220 VAC	
	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Class B or equivalent	
	Power consumption (Current value)	DC voltage (with power-saving circuit)	Inrush: 2.9 W, Holding: 0.6 W	
		DC voltage (without power-saving circuit)	2.9 W	
		AC	2 VA	
	Electrical entry		Grommet, DIN terminal	

Symbol



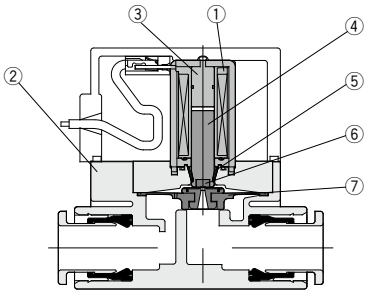
N.C.

When the valve is closed, flow is blocked from port 1 to port 2. However, if the pressure in port 2 is higher than port 1, the valve will not be able to block the fluid and it will flow from port 2 to port 1.

Characteristic Specifications

Series		VQ20		VQ30	
Flow rate characteristics	Port size	ø6	ø8	ø10	ø12
	C [dm³/(s·bar)]	1.4	1.5	2.8	3.0
	b	0.23	0.42	0.42	0.37
	Cv	0.33	0.39	0.80	0.81
Min. operating pressure differential		0.01 MPa			
Max. operating pressure		0.6 MPa		0.5 MPa	
Response time	Electricity circuit	With power-saving circuit	High speed response type	With power-saving circuit	High speed response type
	ON	10 ms or less	7 ms or less	25 ms or less	20 ms or less
	OFF	15 ms or less	5 ms or less	15 ms or less	5 ms or less

Construction



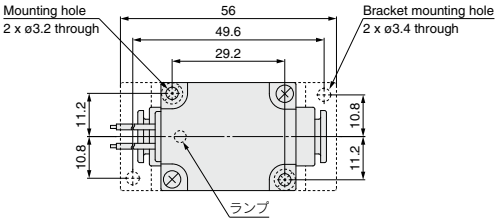
Component Parts

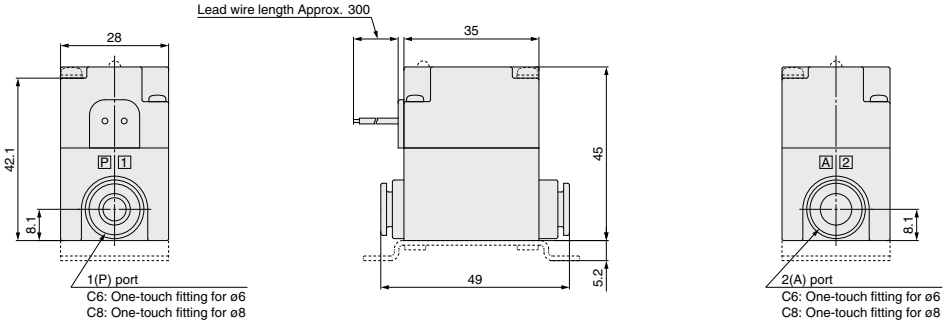
No.	Description	Material
1	Solenoid coil	—
2	Body	Resin
3	Fixed armature	Stainless steel
4	Armature	Stainless steel
5	Return spring	Stainless steel
6	Poppet	NBR
7	Diaphragm assembly	H NBR, Resin

Dimensions: VQ20 Series

In-line Type: Grommet (G)

VQ21A1-□G□-□-□



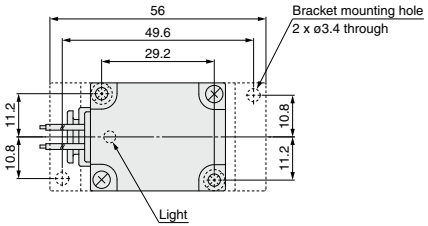


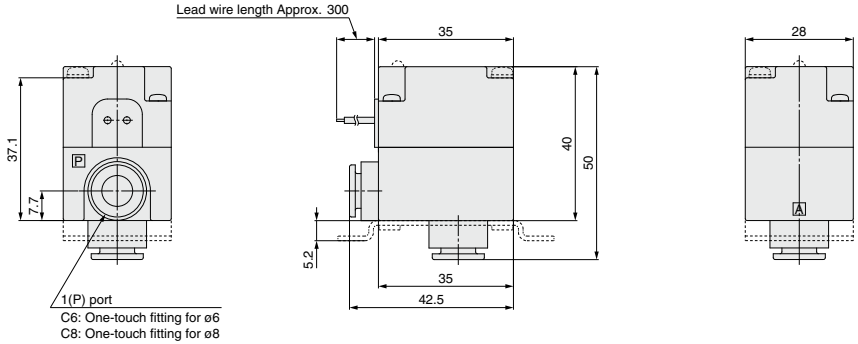
∗ Dotted line: Bracket mounting type (-F)

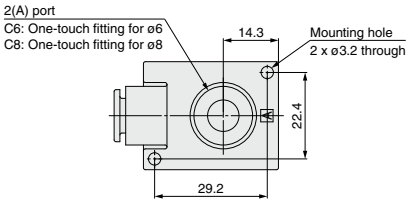
Dimensions: VQ20 Series

Type L: Grommet (G)

VQ21A1-□G□-□-L□





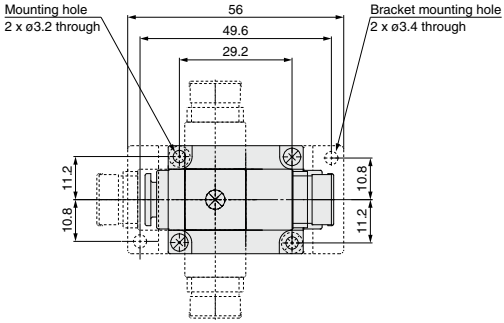


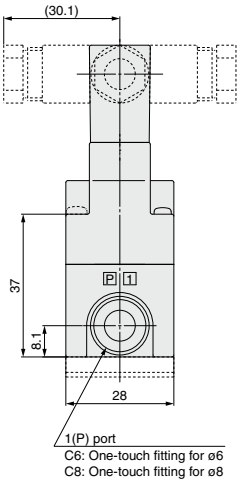
∗ Dotted line: Bracket mounting type (-LF)

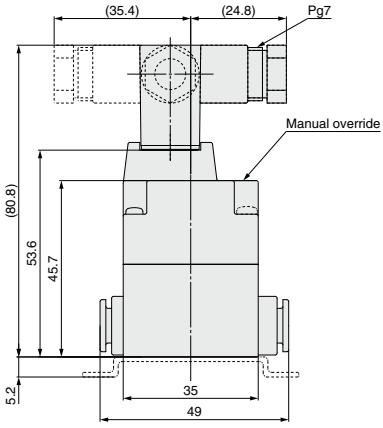
Dimensions: VQ20 Series

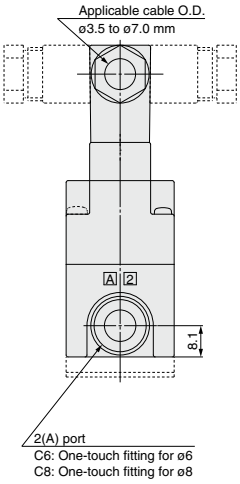
In-line Type: DIN terminal (Y)

VQ21A1-□Y□□-□-□







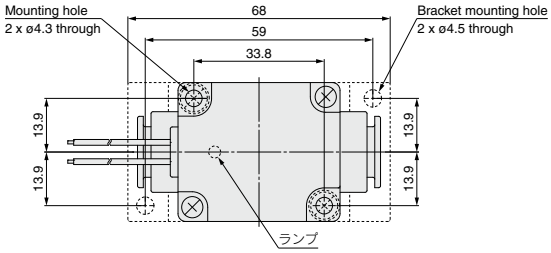


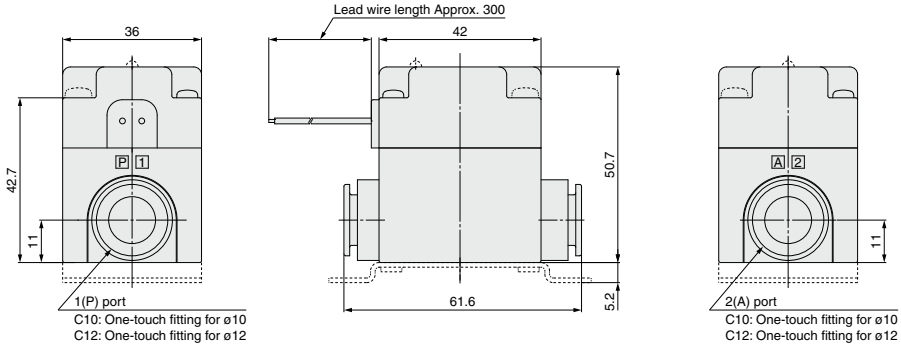
∗ Dotted line: Bracket mounting type (-F)

Dimensions: VQ30 Series

In-line Type: Grommet (G)

VQ31A1-□G□-□-□



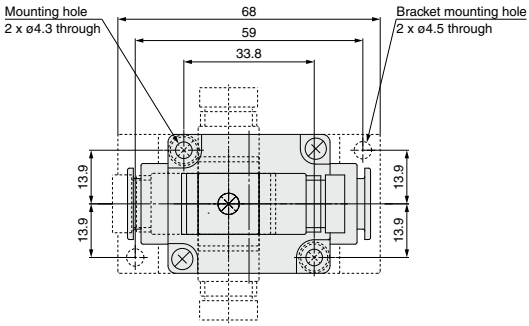


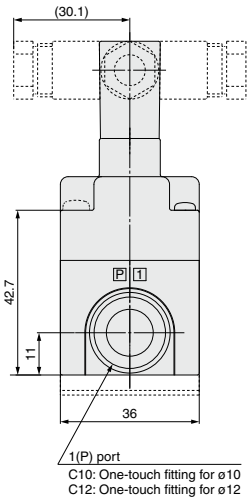
∗ Dotted line: Bracket mounting type (-F)

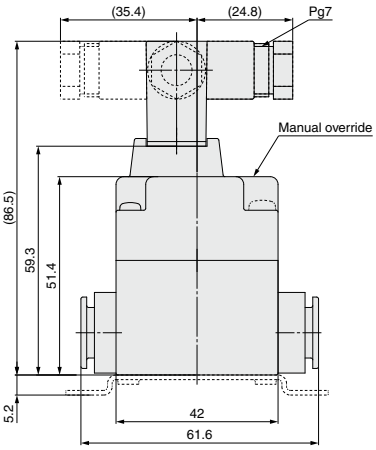
Dimensions: VQ30 Series

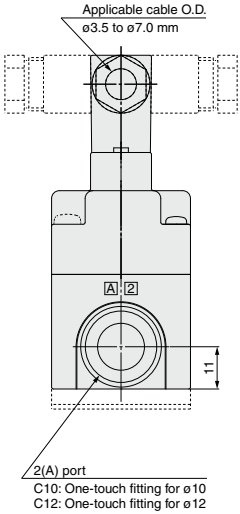
DIN terminal (Y)

VQ31A1-□Y□□-□-□









∗ Dotted line: Bracket mounting type (-F)

Pilot Operated 2 Port Solenoid Valve for Dry Air *VQ20/30 Series*

How to Order Manifold

VV2Q 2 2 – 08 – □ – □ – □

Series

2	VQ20
3	VQ30

Stations

01	1 station
⋮	⋮
20	20 stations

Option

Nil	None
D	DIN rail mounting
DO	DIN rail mounting (Without DIN rail)

P port/Thread type

Nil	Rc 3/8
00N	NPT 3/8
00T	NPTF 3/8
00F	G 3/8

CE/UKCA-compliant

Nil	—
Q	CE/UKCA-compliant

How to Order Manifold Assembly

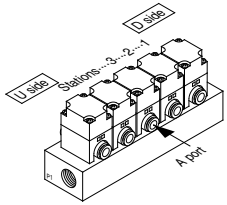
Enter the mounting valve and option part numbers under the manifold base part number.

<Ordering Example>

VV2Q22-05 (-Q) ····· 1 set Manifold part No.
∗ VQ21M1-5G-C6 (-Q) ··· 4 sets Valve part No. (Stations 1 to 4)
∗ VQ21M1-5G-C8 (-Q) ··· 1 set Valve part No. (Station 5)

"∗" is the symbol for assembly. Add a "∗" in front of the part numbers for solenoid valves, etc., to be mounted.

Enter together in order, counting from station 1 on the D side.



How to Order Valves (For Manifold)

VQ 2 1 M 1 – 1 G □ □ – C6 – □ – □

Series/ Orifice diameter

Symbol	Series
2	VQ20
3	VQ30

Valve Type

1	N.C. 2(OUT) 1(IN)

When the valve is closed, flow is blocked from port 1 to port 2. However, if the pressure in port 2 is higher than port 1, the valve will not be able to block the fluid and it will flow from port 2 to port 1.

Valve specifications

M	Manifold

Electrical entry

G	Grommet
Y	DIN terminal
YO	DIN terminal (without connector)

Coil voltage

1	100 VAC (50/60 Hz)
2	200 VAC
3	110 VAC
4	220 VAC (50/60 Hz)
5	24 VDC
6	12 VDC
9	Other special voltage

Note 1) There is polarity for DC voltage (with power-saving circuit type).

Electricity circuit

Symbol	DC voltage	AC voltage
Nil	With power-saving circuit (with surge voltage suppressor protection circuit)	With full wave rectifier circuit (with surge voltage suppressor protection circuit)
Z	With power-saving circuit (with light/surge voltage suppressor protection circuit)	With full wave rectifier circuit (with light/surge voltage suppressor protection circuit)
H Note)	High speed response type (without energy-saving, light/surge voltage suppressor protection circuit)	

Note) H is available only for DC voltage and cannot be energized continuously.

Port size

Symbol	Port size	VQ20	VQ30
C6	One-touch fitting for ø6	○	—
C8	One-touch fitting for ø8	○	—
C10	One-touch fitting for ø10	—	○
C12	One-touch fitting for ø12	—	○

Manual override

Nil	None
B Note)	Slotted locking type (tool required)

Note) Only normally closed DIN terminal in-line type is applicable.

Made to Order specifications (Refer to the table below)

CE/UKCA-compliant

Nil	—
Q	CE/UKCA-compliant

Made to Order Specifications

Oil-free specifications

VQ $\frac{2}{3}$1M1 – □□□ – □ – □ –X2 (-Q)

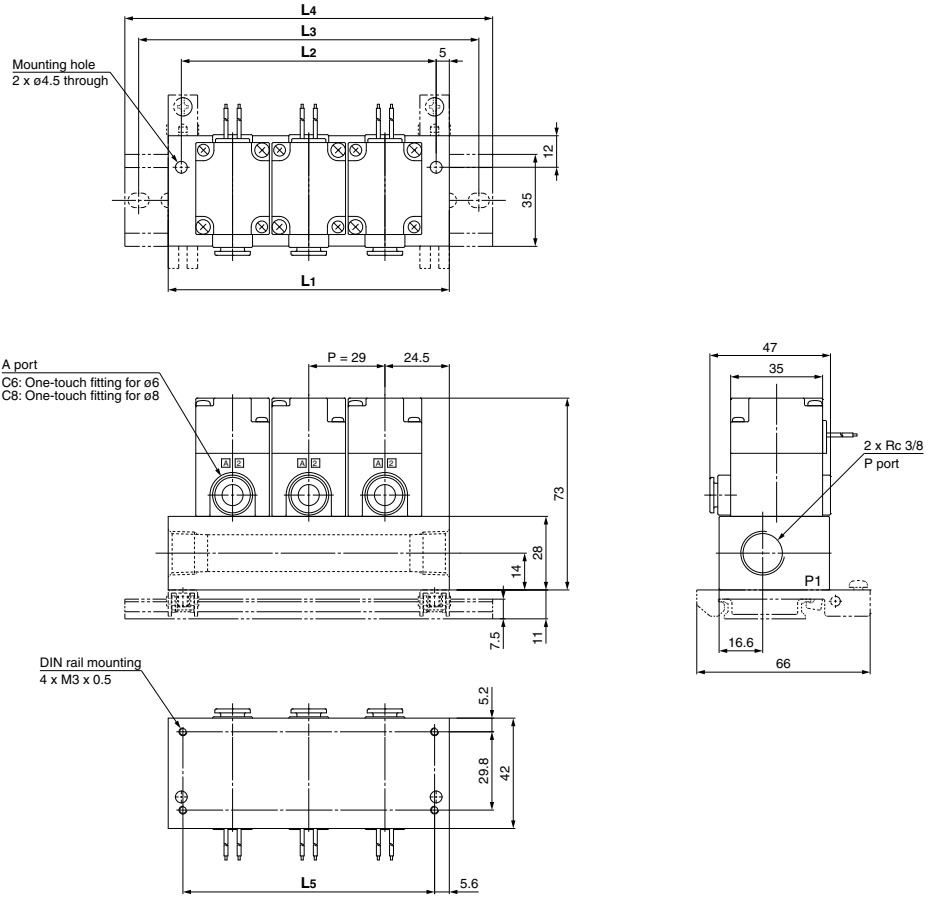
Seal material fluororubber specifications

VQ $\frac{2}{3}$1M1 – □□□□ – □ – □ –X5 (-Q)

Dimensions

VQ20/30 Series

Plug lead unit manifold (VV2Q22-☐)



∗ Dotted line: DIN rail mounting (-D)

Formulas $L_1 = (n - 1) \times 29 + 49$
$L_2 = L_1 - 10$
$L_3 = L_4 - 10.5$
$L_5 = L_1 - 11.2$

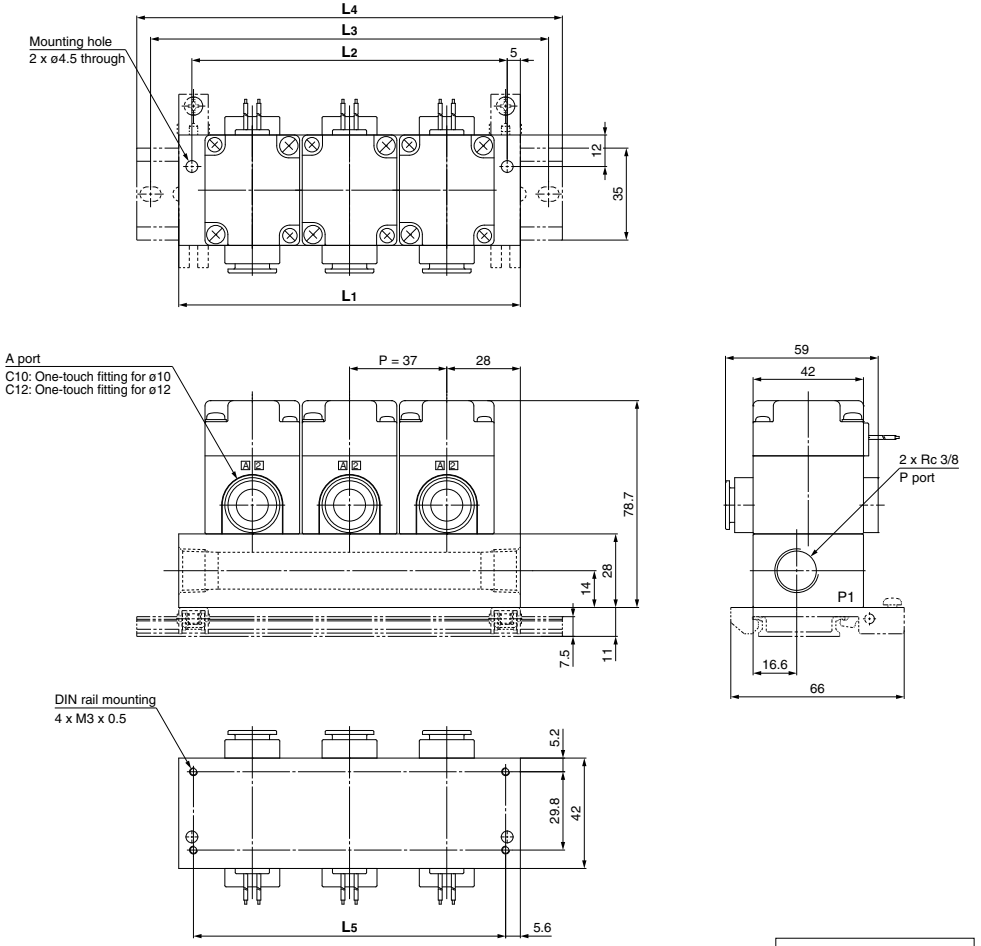
Dimensions

n: Station (Max. 20)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	49	78	107	136	165	194	223	252	281	310	339	368	397	426	455	484	513	542	571	600
L2	39	68	97	126	155	184	213	242	271	300	329	358	387	416	445	474	503	532	561	590
L3	75	100	137.5	162.5	187.5	212.5	250	275	300	337.5	362.5	387.5	425	450	475	500	537.5	562.5	587.5	625
L4	85.5	110.5	148	173	198	223	260.5	285.5	310.5	348	373	398	435.5	460.5	485.5	510.5	548	573	598	635.5
L5	37.8	66.8	95.8	124.8	153.8	182.8	211.8	240.8	269.8	298.8	327.8	356.8	385.8	414.8	443.8	472.8	501.8	530.8	559.8	588.8

Dimensions

Plug lead unit manifold (VV2Q32-□)



∗ Dotted line: DIN rail mounting (-D)

Formulas
$L_1 = (n - 1) \times 37 + 56$
$L_2 = L_1 - 10$
$L_3 = L_4 - 10.5$
$L_5 = L_1 - 11.2$

Dimensions

n: Station (Max. 20)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L_1	56	93	130	167	204	241	278	315	352	389	426	463	500	537	574	611	648	685	722	759
L_2	46	83	120	157	194	231	268	305	342	379	416	453	490	527	564	601	638	675	712	749
L_3	75	112.5	150	187.5	225	261.5	300	337.5	375	412.5	450	487.5	525	562.5	587.5	625	662.5	700	737.5	775
L_4	85.5	123	160.5	198	235.5	273	310.5	348	385.5	423	460.5	498	535.5	573	598	635.5	673	710.5	748	785.5
L_5	44.8	81.8	118.8	155.8	192.8	229.8	266.8	303.8	340.8	377.8	414.8	451.8	488.8	525.8	562.8	599.8	636.8	673.8	710.8	747.8