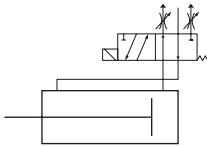


SLIM VALPACK CYLINDERS

Standard Rod Cylinders, Square Rod Cylinders

Symbol



Specifications

● Valpack cylinders specifications

Item	Bore size mm [in.]				
	20 [0.787]	25 [0.984]	32 [1.260]	40 [1.575]	40 [1.575]
Solenoid valve series	062 series				125 series
Operation type	Double acting type				
Media	Air				
Mounting type	Basic type, Foot type, Flange type, Rod trunnion type, Head trunnion type				
Operating pressure range MPa [psi.]	Air cylinder	0.04~0.9 [6~131]			
	Square rod cylinders (φ 25 and φ 40 only)	0.1~0.9 [15~131]			
Proof pressure MPa [psi.]	1.32 [191]				
Operating temperature range °C [°F]	0~60 [32~140]				
Operating speed range mm/s [in./sec.]	30~800	30~500	30~300	30~210	30~450
	[1.2~31.5]	[1.2~19.7]	[1.2~11.8]	[1.2~8.3]	[1.2~17.7]
Speed controller	Exhaust throttle valve (in both directions) is standard equipment.				
Cushion	Fixed type (Rubber bumper)				
Lubrication	Not required				Required (Turbine Oil Class 1 [ISO VG32] or equivalent)
Port size	Rc	1/4			

Note: Solenoid valve 125 series is available (as an option) for bore size φ 40 only.

● Solenoid valve specifications

Item	Series	062 series	125 series
	Solenoid specification	Single	Single
Model	VPS062-4E1-70	VPS125-4E1-70	
Operation type	Direct operation		
Number of positions and ports	2 positions, 5 ports		
Effective area mm ² [Cv]	1.8 [0.1]	3.5 [0.19]	
Port size	Rc	1/4	
Lubrication	Not required	Required (Turbine Oil Class 1 [ISO VG32] or equivalent)	
Operating pressure range MPa [psi.]	0~0.9 [0~131] (For the solenoid valve alone, however)		
Proof pressure MPa [psi.]	1.32 [191]		
Operating temperature range °C [°F]	0~60 [32~140]		
Shock resistance m/s ² [G]	Lateral direction	980.7 [100]	
	Axial direction	980.7 [100]	
Mounting direction	Any		
Maximum operation frequency Hz	5		

● Solenoid specifications

Item	Rated voltage	AC100V	AC200V	DC24V	
	Operating voltage range V		90~110 (100±10%)	180~220 (200±10%)	21.6~26.4 (24±10%)
Current value (Applied rated voltage)	Frequency Hz	50	60	50	60
	Current mA (r.m.s)	140	130	70	65
Insulation resistance MΩ	100 or more				
Wiring and lead wire length	Grommet type: About 300mm [11.8in.]				
Color of lead wire	Yellow and black	White and black	Red and black		

Notes: 1. While voltages other than those listed above can be manufactured, consult us about delivery for voltages other than AC100V and AC200V.

2. Since air pressure being used as a self-holding force could cause it to be unstable when using the VPS062-4E2 solenoid valve, always supply power with an electric circuit, to the solenoid valve, while the cylinder is in operation.

3. Consult us about surge suppression measures.

Bore Size and Stroke

● Standard rod cylinder

Bore size	Standard strokes				Maximum stroke	Maximum available stroke
	25	50	75	100		
20	25	50	75	100	200	1050 (740)
25	25	50	75	100	250	
32	25	50	75	100	300	
40	25	50	75	100	400 (300)	

● Square rod cylinders

Bore size	Standard strokes				Maximum stroke	Maximum available stroke
	25	50	75	100		
20	25	50	75	100	150	500
40	25	50	75	100	150	

Remarks: 1. Stroke tolerance $^{+1}_{0} [^{+0.039in.}]$

2. For non-standard strokes, consult us.

3. Figures in parentheses () are for cylinders with bellows.

4. The minimum operating pressure when the stroke is over the maximum stroke is 0.2MPa [29psi.].

Mass

● Standard rod cylinder

Solenoid valve	Bore size mm	Zero stroke mass				Additional mass for each 1mm [0.0394in.] stroke
		Basic type	Foot type	Flange type	Trunnion type	
062 series	20	0.49 [1.08]	0.62 [1.37]	0.57 [1.26]	0.69 [1.52]	0.0008 [0.0018]
	25	0.54 [1.19]	0.68 [1.50]	0.62 [1.37]	0.73 [1.61]	0.0011 [0.0024]
	32	0.64 [1.41]	0.79 [1.74]	0.74 [1.63]	0.82 [1.81]	0.0015 [0.0033]
	40	0.80 [1.76]	1.01 [2.23]	0.93 [2.05]	0.97 [2.14]	0.0024 [0.0053]
125 series	40	0.86 [1.90]	1.08 [2.38]	0.99 [2.18]	1.04 [2.29]	0.0024 [0.0053]

Calculation example: For the mass of foot mounting type of 32mm bore size and 100mm stroke

$$0.79 + (0.0015 \times 100) = 0.94\text{kg} [2.07\text{lb.}]$$

● Square rod cylinder

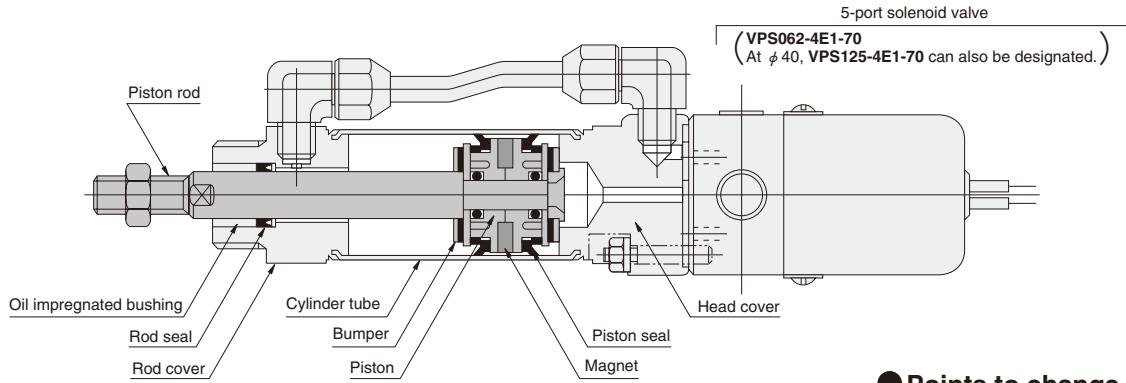
Solenoid valve	Bore size mm	Zero stroke mass				Additional mass for each 1mm [0.0394in.] stroke
		Basic type	Foot type	Flange type	Trunnion type	
062 series	25	0.53 [1.17]	0.67 [1.48]	0.61 [1.35]	0.72 [1.59]	0.0009 [0.0020]
	40	0.81 [1.79]	1.02 [2.25]	0.94 [2.07]	0.98 [2.16]	0.0021 [0.0046]
125 series	40	0.87 [1.92]	1.09 [2.40]	1.00 [2.21]	1.05 [2.32]	0.0021 [0.0046]

Calculation example: For the mass of foot mounting type of 25mm bore size and 100mm stroke

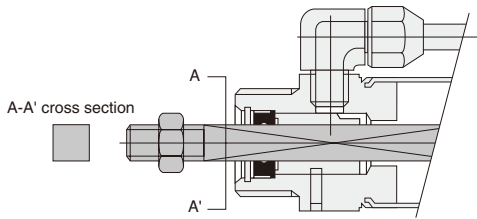
$$0.67 + (0.0009 \times 100) = 0.76\text{kg} [1.68\text{lb.}]$$

● For the mass of the mounting bracket, see p.315.

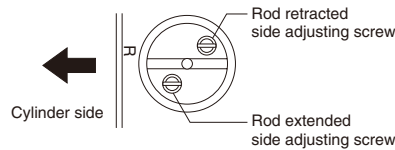
Inner Construction and Major Parts (Cylinder body cannot be disassembled)



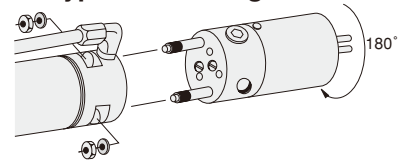
● Square rod cylinders



● Handling of speed controller



● Points to change for pull type when energized



Remove the nut and washer, pull the valve out from the cylinder, rotate it 180°, and assemble it as before.

Remark: Major parts and materials and seals are the same as for the standard cylinder.

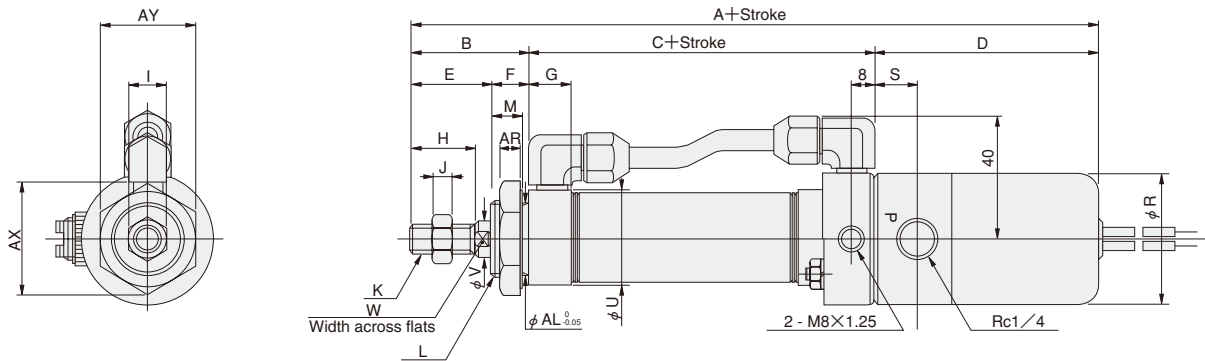
Order Codes

<p>DV 20×50 - [] - [] - [] - [] - [] - [] - [] - []</p> <p>Bore size × Stroke</p> <p>Mounting type Blank — Basic type 1 — Foot mounting type 3 — Flange mounting type 11T — With supporting bracket head side trunnion type 12 — Rod side trunnion type 12-12T — With supporting bracket rod side trunnion type</p> <p>● Mounting brackets are included at shipping. ● Rod trunnion type is not available for square rod cylinders.</p> <p>DV — Double acting type cylinder with valve DVJ — Cylinder with bellows and valve (Made to order) DVJL — Square rod cylinder with valve and bellows (Made to order; available at φ 25 and φ 40 only) DVL — Square rod cylinder with valve (Made to order; available at φ 25 and φ 40 only)</p>	<p>Mounting valve option Blank — None 37 — With conduit cover 80 — With non-locking type manual override 81 — With locking type manual override S — Pull type when energized T — With terminal box</p> <p>37-S 80-S 80-T 81-S 81-T S-T 80-S-T 81-S-T</p> <p>Combinations of the above options</p> <p>Mounting valve series Blank — With VPS062-4E1-70 Z — With VPS125-4E1-70 (Available at φ 40 only) 4E2 — With VPS062-4E2-70 (Double solenoid valve) 4SE2 — With VPS062-4SE2-70 (Keep solenoid valve)</p> <p>Rod end accessory Blank — No rod end accessory I — I type knuckle Y — Y type knuckle (with pin)</p> <p>● For the cylinder joint and cylinder rod end, see p.1568.</p>	<p>Solenoid valve voltage DC24V AC100V AC200V</p> <p>Number of sensor switches 1 — With 1 sensor switch 2 — With 2 sensor switches 3 — With 3 sensor switches ⋮</p> <p>Lead wire length (Applies to all except CS□F) A — 1000mm [39in.] B — 3000mm [118in.]</p> <p>Sensor switch (for cylinders with sensor switches) Blank — No sensor switch ZG530 — 2-lead wire Solid state type with indicator lamp DC10~28V ZG553 — 3-lead wire Solid state type with indicator lamp DC4.5~28V CS3M — Reed switch type with indicator lamp DC10~30V AC85~230V CS4M — Reed switch type with indicator lamp DC10~30V AC85~115V CS5M — Reed switch type without indicator lamp DC3~30V AC85~115V CS2F — Reed switch type with indicator lamp AC85~230V CS3F — Reed switch type with indicator lamp DC10~30V CS4F — Reed switch type with indicator lamp DC10~30V CS5F — Reed switch type without indicator lamp DC3~30V</p> <p>● For details of sensor switches, see p.1544. ● CS□F comes with DIN connector. All others are grommet type.</p>
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Remarks: 1. Order code for the Valpack valve only is VPS062-4E1-70-voltage (or VPS125-4E1-70-voltage).
 2. Can also be manufactured with keep solenoid type (momentarily energizing holding type) valve.

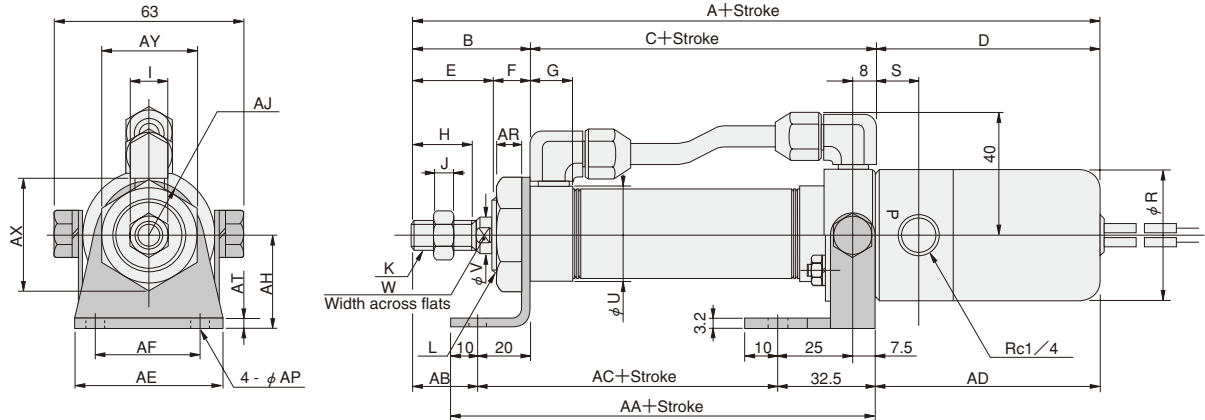
Dimensions of Valpack Cylinder (mm)

● Basic type DV ×



Solenoid valve	Bore mm [in.]	Code	A	B	C	D	E	F	G	H	I	J	K	L	M	R	S	U	V	W	AR	AX	AY	AL
062 series	20	[0.787]	196	35	88	73	23	12	16	15	12	5	M 8×1	M20×1.5	10	42	14.5	27	8	6	7.5	31.2	27	20
	25	[0.984]	201	40	88	73	26	14	16	18	14	6	M10×1.25	M22×1.5	12	42	14.5	29	10	8	9.5	34.6	30	22
	32	[1.260]	206	45	88	73	31	14	16	23	14	6	M10×1.25	M27×2	12	42	14.5	35	12	10	9.5	41.6	36	27
	40	[1.575]	211	45	93	73	31	14	(14.5)	23	19	8	M14×1.5	M33×2	12	42	14.5	41.6	16	14	9.5	47.3	41	33
125 series	40	[1.575]	221	45	93	83	31	14	(14.5)	23	19	8	M14×1.5	M33×2	12	46	16.5	41.6	16	14	9.5	47.3	41	33

● Foot mounting type DV × -1



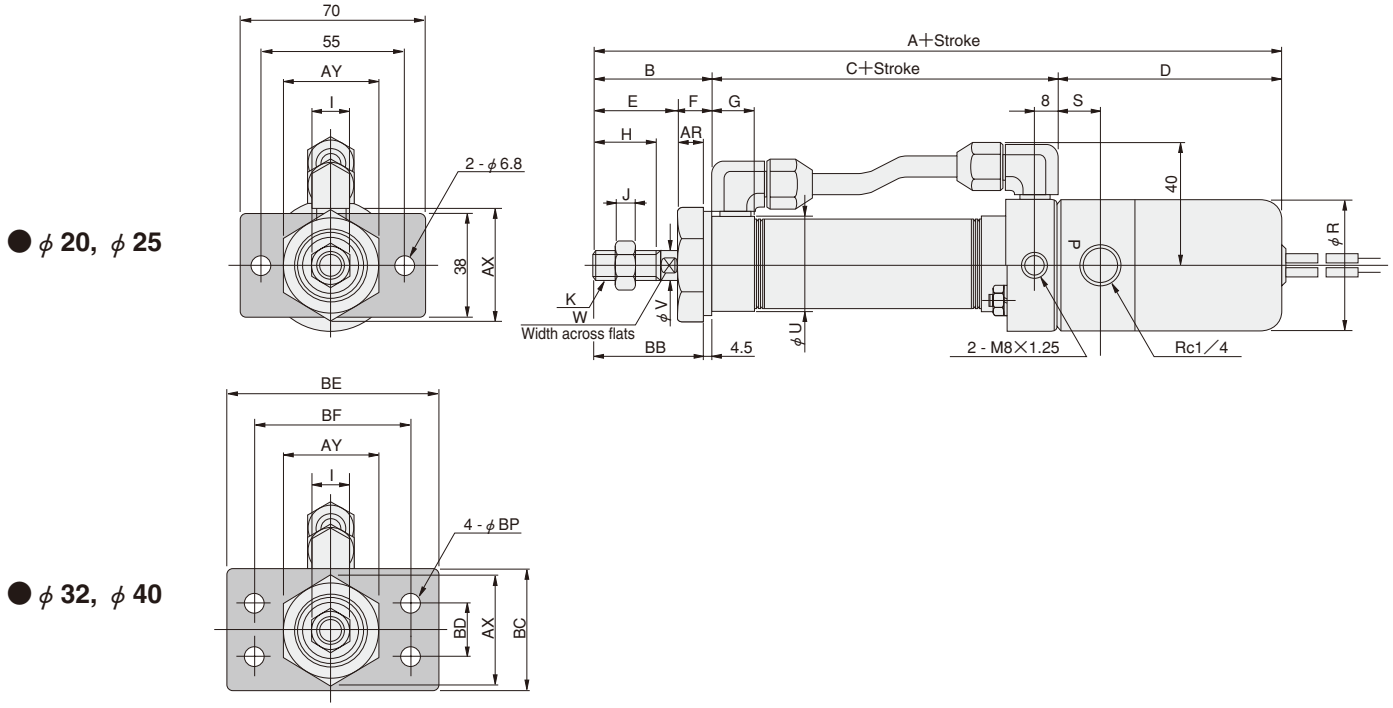
Solenoid valve	Bore mm [in.]	Code	A	B	C	D	E	F	G	H	I	J	K	R	S	U	V	W
062 series	20	[0.787]	196	35	88	73	23	12	16	15	12	5	M 8×1	42	14.5	27	8	6
	25	[0.984]	201	40	88	73	26	14	16	18	14	6	M10×1.25	42	14.5	29	10	8
	32	[1.260]	206	45	88	73	31	14	16	23	14	6	M10×1.25	42	14.5	35	12	10
	40	[1.575]	211	45	93	73	31	14	(14.5)	23	19	8	M14×1.5	42	14.5	41.6	16	14
125 series	40	[1.575]	221	45	93	83	31	14	(14.5)	23	19	8	M14×1.5	46	16.5	41.6	16	14

Solenoid valve	Bore mm [in.]	Code	AA	AB	AC	AD	AE	AF	AH	AJ	AP	AR	AT	AX	AY
062 series	20	[0.787]	117.5	15	75	73.5	55	40	25	15.5	6.8	7.5	3.2	31.2	27
	25	[0.984]	117.5	20	75	73.5	55	40	30	17	6.8	9.5	3.2	34.6	30
	32	[1.260]	117.5	25	75	73.5	55	40	35	20	6.8	9.5	3.2	41.6	36
	40	[1.575]	122.5	25	80	73.5	75	55	40	23.5	9	9.5	4	47.3	41
125 series	40	[1.575]	122.5	25	80	83.5	75	55	40	23.5	9	9.5	4	47.3	41

SLIM CYLINDERS

Dimensions of Valpack Cylinder (mm)

● Flange mounting type DV × -3

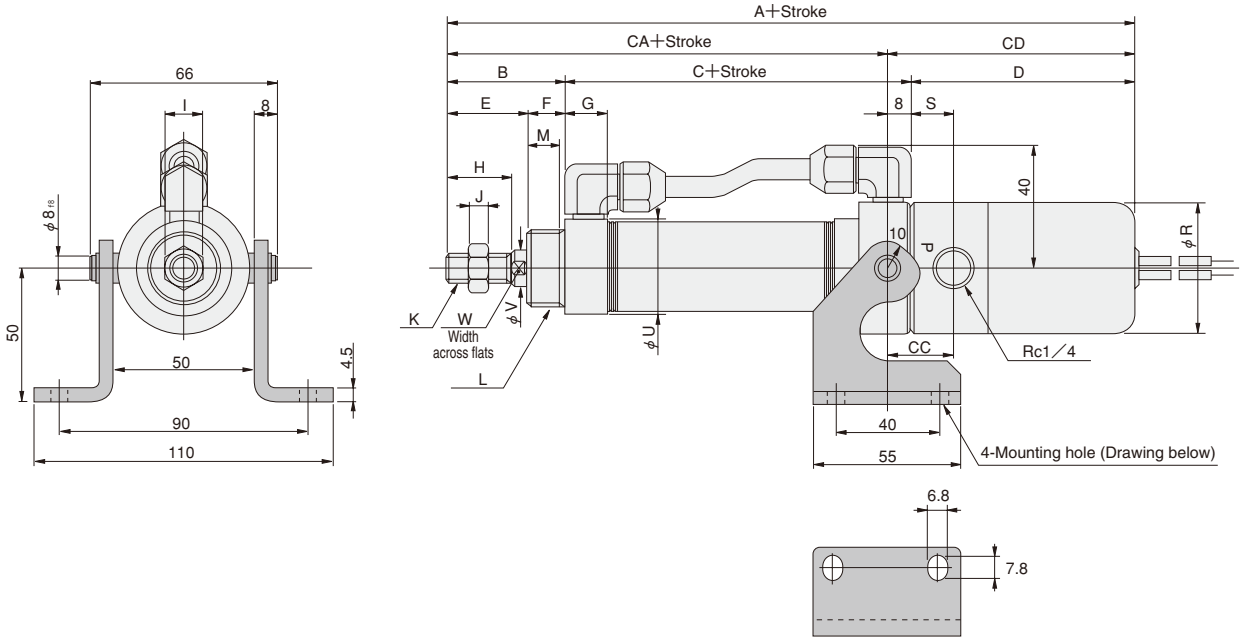


Solenoid valve	Bore mm [in.]	Code	A	B	C	D	E	F	G	H	I	J	K	R	S	U	V	W
062 series	20	[0.787]	196	35	88	73	23	12	16	15	12	5	M 8×1	42	14.5	27	8	6
	25	[0.984]	201	40	88	73	26	14	16	18	14	6	M10×1.25	42	14.5	29	10	8
	32	[1.260]	206	45	88	73	31	14	16	23	14	6	M10×1.25	42	14.5	35	12	10
125 series	40	[1.575]	211	45	93	73	31	14	(14.5)	23	19	8	M14×1.5	42	14.5	41.6	16	14
125 series	40	[1.575]	221	45	93	83	31	14	(14.5)	23	19	8	M14×1.5	46	16.5	41.6	16	14

Solenoid valve	Bore mm [in.]	Code	AR	AX	AY	BB	BC	BD	BE	BF	BP
062 series	20	[0.787]	7.5	31.2	27	30.5	—	—	—	—	—
	25	[0.984]	9.5	34.6	30	35.5	—	—	—	—	—
	32	[1.260]	9.5	41.6	36	40.5	45	20	80	60	6.8
125 series	40	[1.575]	9.5	47.3	41	40.5	50	30	100	80	9
	40	[1.575]	9.5	47.3	41	40.5	50	30	100	80	9

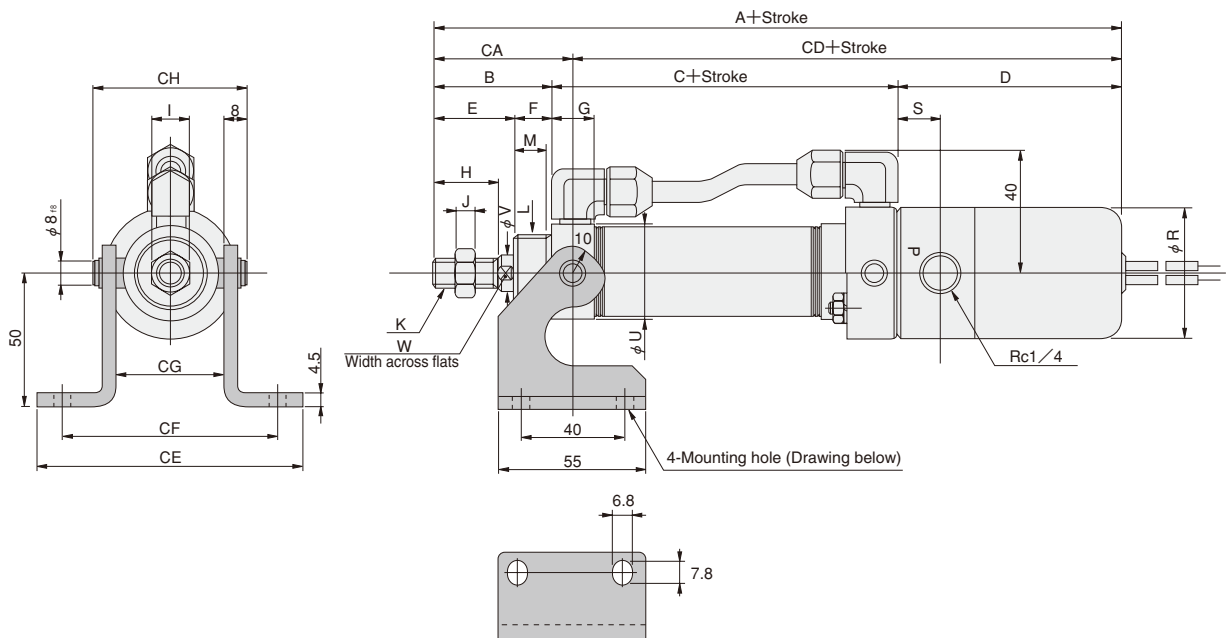
Dimensions of Valpack Cylinder (mm)

● Head side trunnion type DV Bore size × Stroke -11T



Solenoid valve	Bore mm [in.]	Code	A	B	C	D	E	F	G	H	I	J	K	L	M	R	S	U	V	W	CA	CC	CD
062 series	20	[0.787]	196	35	88	73	23	12	16	15	12	5	M8×1	M20×1.5	10	42	14.5	27	8	6	115	22.5	81
	25	[0.984]	201	40	88	73	26	14	16	18	14	6	M10×1.25	M22×1.5	12	42	14.5	29	10	8	120	22.5	81
	32	[1.260]	206	45	88	73	31	14	16	23	14	6	M10×1.25	M27×2	12	42	14.5	35	12	10	125	22.5	81
	40	[1.575]	211	45	93	73	31	14	(14.5)	23	19	8	M14×1.5	M33×2	12	42	14.5	41.6	16	14	130	22.5	81
125 series	40	[1.575]	221	45	93	83	31	14	(14.5)	23	19	8	M14×1.5	M33×2	12	46	16.5	41.6	16	14	130	24.5	91

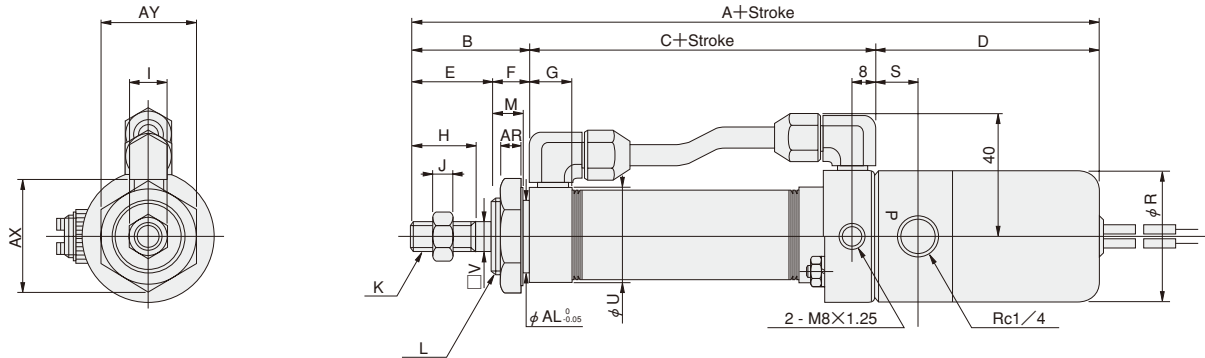
● Rod side trunnion type DV Bore size × Stroke -12



Solenoid valve	Bore mm [in.]	Code	A	B	C	D	E	F	G	H	I	J	K	L	M	R	S	U	V	W	CA	CD	CE	CF	CG	CH
062 series	20	[0.787]	196	35	88	73	23	12	16	15	12	5	M8×1	M20×1.5	10	42	14.5	27	8	6	43	153	92	72	32	48
	25	[0.984]	201	40	88	73	26	14	16	18	14	6	M10×1.25	M22×1.5	12	42	14.5	29	10	8	48	153	94	74	34	50
	32	[1.260]	206	45	88	73	31	14	16	23	14	6	M10×1.25	M27×2	12	42	14.5	35	12	10	53	153	100	80	40	56
	40	[1.575]	211	45	93	73	31	14	(14.5)	23	19	8	M14×1.5	M33×2	12	42	14.5	41.6	16	14	53	158	107	87	47	63
125 series	40	[1.575]	221	45	93	83	31	14	(14.5)	23	19	8	M14×1.5	M33×2	12	46	16.5	41.6	16	14	53	168	107	87	47	63

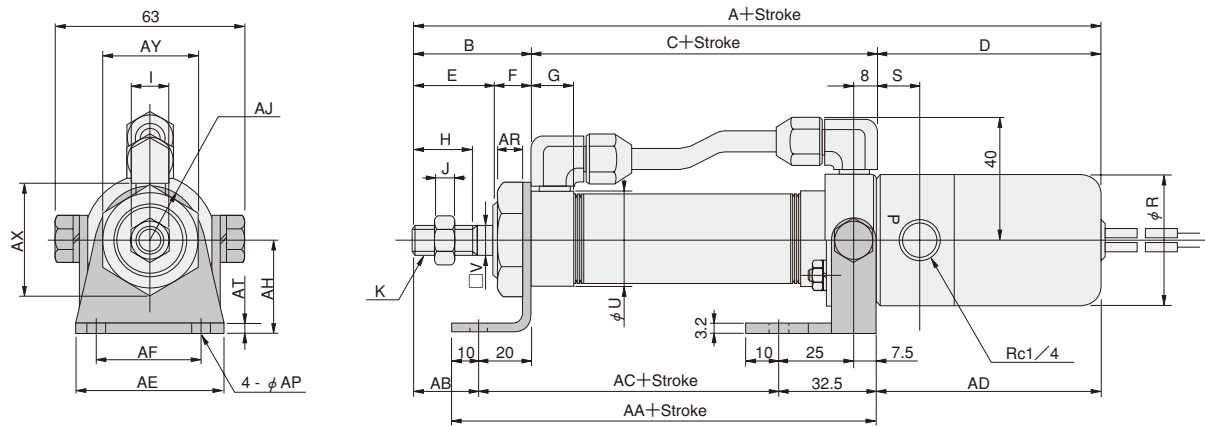
Dimensions of Valpack Square Rod Cylinder (mm)

● Basic type DVL ×



Solenoid valve	Bore mm [in.]	Code	A	B	C	D	E	F	G	H	I	J	K	L	M	R	S	U	V	AR	AX	AY	AL
062 series	25 [0.984]		201	40	88	73	26	14	16	18	12	5	M8×1	M22×1.5	12	42	14.5	29	7.4	9.5	34.6	30	22
	40 [1.575]		211	45	93	73	31	14	(14.5)	23	19	8	M14×1.5	M33×2	12	42	14.5	41.6	13	9.5	47.3	41	33
125 series	40 [1.575]		221	45	93	83	31	14	(14.5)	23	19	8	M14×1.5	M33×2	12	46	16.5	41.6	13	9.5	47.3	41	33

● Foot mounting type DVL × -1

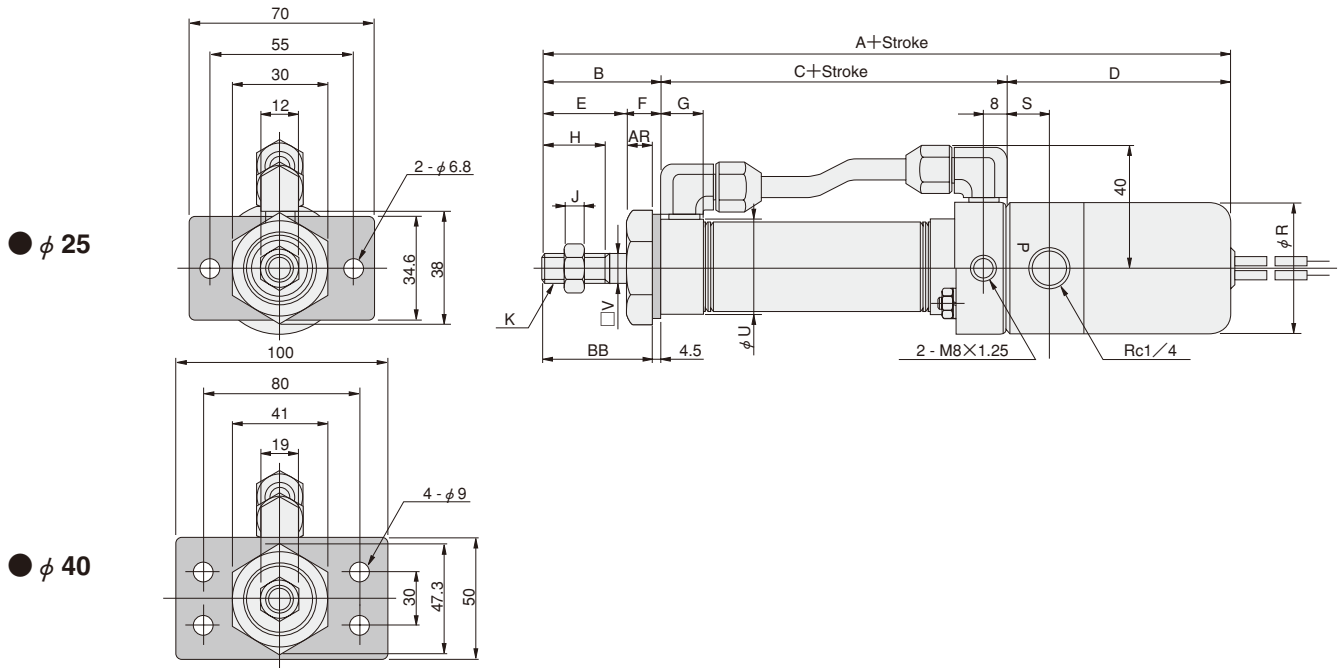


Solenoid valve	Bore mm [in.]	Code	A	B	C	D	E	F	G	H	I	J	K	R	S	U	V
062 series	25 [0.984]		201	40	88	73	26	14	16	18	12	5	M8×1	42	14.5	29	7.4
	40 [1.575]		211	45	93	73	31	14	(14.5)	23	19	8	M14×1.5	42	14.5	41.6	13
125 series	40 [1.575]		221	45	93	83	31	14	(14.5)	23	19	8	M14×1.5	46	16.5	41.6	13

Solenoid valve	Bore mm [in.]	Code	AA	AB	AC	AD	AE	AF	AH	AJ	AP	AR	AT	AX	AY
062 series	25 [0.984]		117.5	20	75	73.5	55	40	30	17	6.8	9.5	3.2	34.6	30
	40 [1.575]		122.5	25	80	73.5	75	55	40	23.5	9	9.5	4	47.3	41
125 series	40 [1.575]		122.5	25	80	83.5	75	55	40	23.5	9	9.5	4	47.3	41

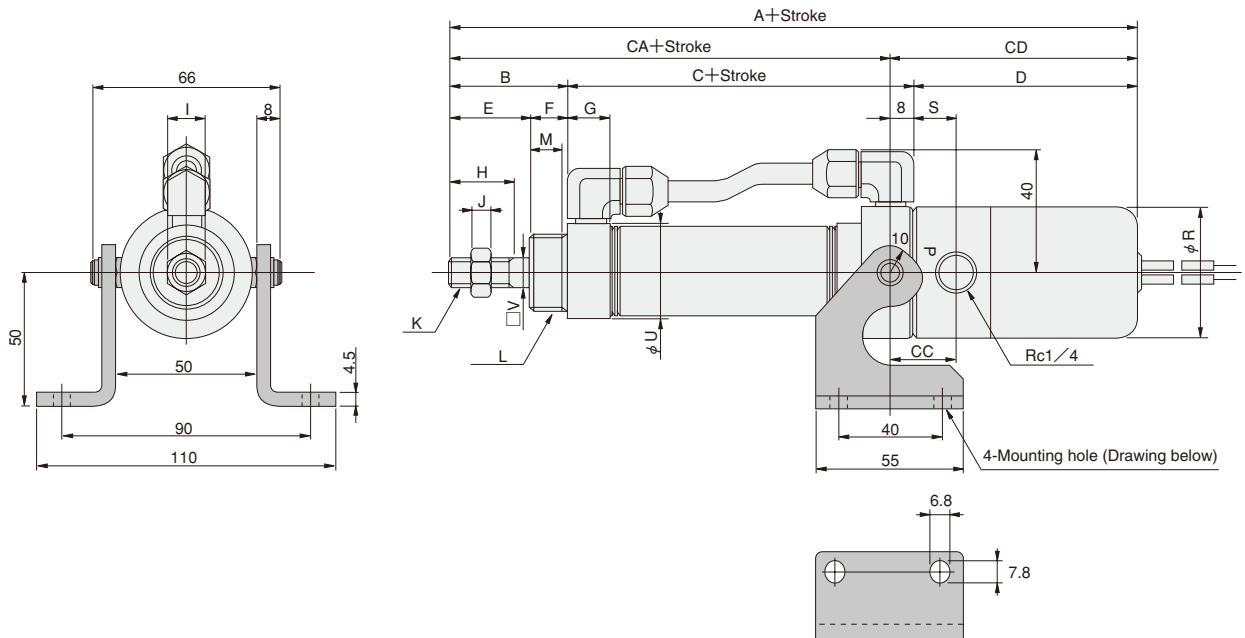
Dimensions of Valpack Square Rod Cylinder (mm)

● Flange mounting type DVL × -3



Solenoid valve	Bore mm [in.]	Code	A	B	C	D	E	F	G	H	J	K	R	S	U	V	AR	BB
062 series	25 [0.984]		201	40	88	73	26	14	16	18	5	M8×1	42	14.5	29	7.4	9.5	35.5
	40 [1.575]		211	45	93	73	31	14	(14.5)	23	8	M14×1.5	42	14.5	41.6	13	9.5	40.5
125 series	40 [1.575]		221	45	93	83	31	14	(14.5)	23	8	M14×1.5	46	16.5	41.6	13	9.5	40.5

● Head side trunnion type DVL × -11T



Solenoid valve	Bore mm [in.]	Code	A	B	C	D	E	F	G	H	I	J	K	L	M	R	S	U	V	CA	CC	CD
062 series	25 [0.984]		201	40	88	73	26	14	16	18	12	5	M8×1	M22×1.5	12	42	14.5	29	7.4	120	22.5	81
	40 [1.575]		211	45	93	73	31	14	(14.5)	23	19	8	M14×1.5	M33×2	12	42	14.5	41.6	13	130	22.5	81
125 series	40 [1.575]		221	45	93	83	31	14	(14.5)	23	19	8	M14×1.5	M33×2	12	46	16.5	41.6	13	130	24.5	91

SLIM CYLINDERS