

KEMPION

ISO9001



DIAPHRAGM *Metering Pumps*

For Chemical Dosing **KD**



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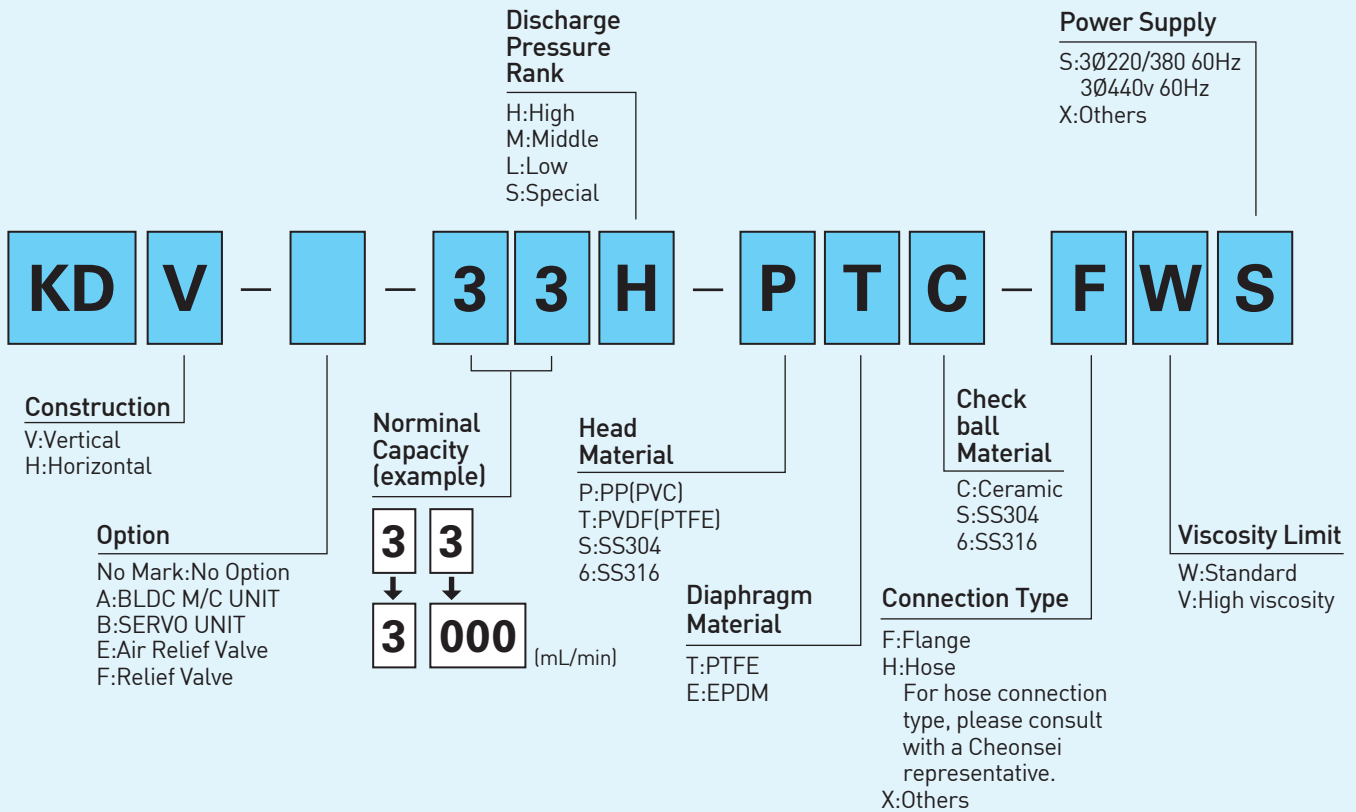


KD Series KEMPION Diaphragm Metering Pumps KD

Metering pumps can inject chemicals into pressurized vessel or pipe with dosing and so sometimes called as Chemical Injection Pumps. It has solved chemical corrosion and leakage problem by precise design and adopting chemical resistance material.

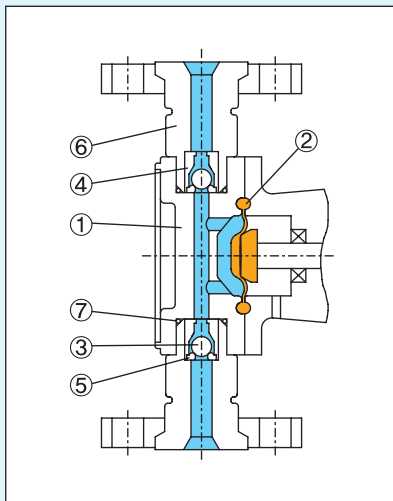
KEMPION Diaphragm Metering Pumps have been recognized by the various industry fields using chemicals for a long time.

Model Code

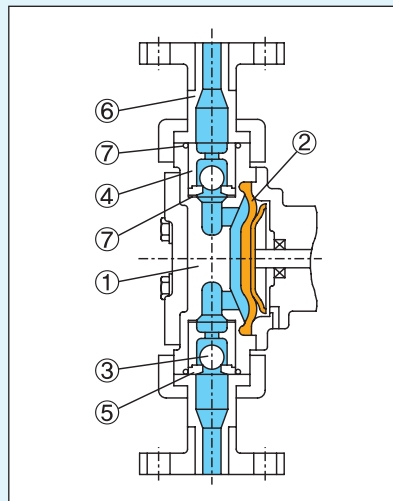


Liquid End Material

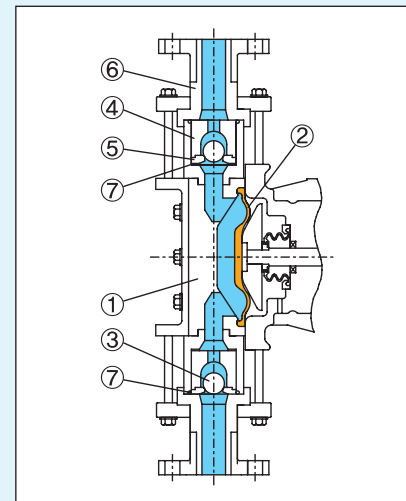
○ KD-21H~82H-PTC



○ KD-13H~14M-PTC



○ KD-14H~54L-PTC



Material (Standard)		PTC (PES)		FTC		STS (6T6)	
Parts Name	Capacity	21H~82H	13H~54L	21H~14M	14H~54L	21H~82H	13H~54L
① Head		PP	PVC	PVDF	PTFE	SS304 (SS316)	
② Diaphragm		PTFE (EPDM)		PTFE		PTFE	
③ Check Ball		CERAMIC (STS304)		CERAMIC		SS304 (SS316)	
④ Ball Guide		PP	PVC	PVDF	PTFE (PVDF)	PVDF	SS304 (SS316)
⑤ Ball Seat		FKM (EPDM) PVC	PVC	PTFE (PVDF)		PTFE	SS304 (SS316)
⑥ Joint		PP	PVC	PVDF		SS304 (SS316)	
⑦ O-ring, Packing		FKM (EPDM)		PTFE		PTFE	

Note) 1. Materials other than standard can be used specially. If the customer request. Please contact to sales engineer or distributor.
2. All the information mentioned above may be revised for improvement without prior notice.

Specification

Spec. Model	Max. capacity (mL/min)		Max. discharge pressure (bar)	Stroke frequency (SPM)		Diameter of diaphragm (mm)	Stroke length (mm)	Connection			Motor (kW)	Weight (kg) Vert. (Hori.)			
	50Hz	60Hz		Hose				Flange							
				PVC	PTFE										
KD-21H	20	25	10	48	58	30	3	Ø6×Ø11	Ø10×Ø12	KS10K 15A	0.2	14(17)			
KD-61H	50	60	10	48	58	36	4								
KD-12H	100	120	10	96	116	36	4								
KD-22H	210	260	10	48	58	55	6								
KD-52H	420	520	10	96	116	55	6	Ø12×Ø18				Ø12×Ø14	KS10K 15A	0.2	15(18)
KD-82H	700	840	10	96	116	68	5								
KD-13H	850	1,020	10	48	58	100	6								
KD-23H	1,700	2,040	8	96	116	100	6								
KD-33L	2,900	3,480	5	48	58	130	10	-	KS10K 25A	0.4	20(22)				
KD-43L	3,400	4,100	5	96	116	130	6								
KD-73L	6,200	7,440	3	96	116	130	10								
KD-53L	4,800	5,800	5	96	116	130	8								
KD-63L	5,450	6,550	4	96	116	130	9								
KD-33H	2,900	3,480	10	48	58	130	10	-	KS10K 25A	0.4	47(51)				
KD-73H	6,200	7,440	7	96	116	130	10								
KD-43H	3,600	4,400	8	48	58	145	10	-	KS10K 25A	0.4	40(44)				
KD-63H	5,500	6,600	7	48	58	145	15								
KD-93M	7,500	9,100	5	96	116	145	10								
KD-14N	9,800	11,800	4	96	116	145	12.5								
KD-14M	11,500	13,800	5	96	116	145	15								
KD-14H	9,000	10,800	7	48	58	177	17.5	-	KS10K 40a	0.75	86				
KD-14G	13,300	16,000	5	96	116	177	12.5								
KD-24L	18,400	22,000	3	96	116	177	17.5								
KD-24S	22,300	28,000	3	96	116	195	17.5								
KD-24H	18,400	22,000	7	96	116	177	17.5	-	KS10K 40A	1.5	88				
KD-34H	26,600	32,000	5	96	116	195	20								
KD-54L	45,000	54,000	3	96	116	250	20					KS10K 50A	100		

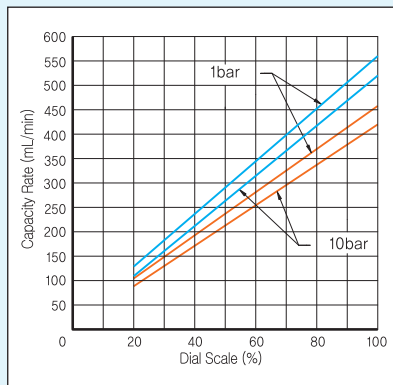
Note) 1. Max.capacity is tested under the following conditions:

- Temperature : Ambient
 - Liquid : Potable water
 - Discharge pressure : Max. discharge pressure
2. The effective range of discharge volume adjustment is 20% up to 100% of max. capacity.
 3. Special requirement of the motor (such as explosion proof) can only be met with horizontal type construction. (Except KDV-14H~54L).
 4. The weight is based on standard motor & PTC type pump.
 5. The limits of liquid temperature are 0~50°C for PVC and 0~80°C for Stainless Steel respectively.
 6. Ambient temperature limit is 0~40°C.
 7. Self-priming capacity is 1meter or less in full stroke operation.
 8. The Munsell No. of painting is 0.6PB 4.8/10.6 except motor.
(The color of the motor is manufacturer standard.)
 9. The contents on this catalog may be revised for improvement without prior notice.

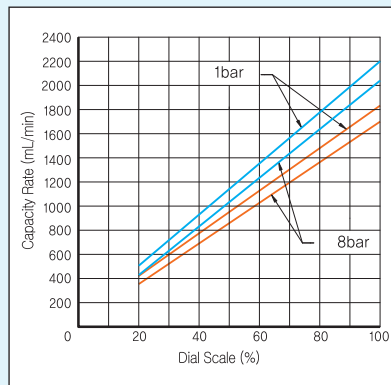
Performance Curves

— 60Hz — 50Hz Conditions : Room Temperature, Clean water, Suction Head - 1m

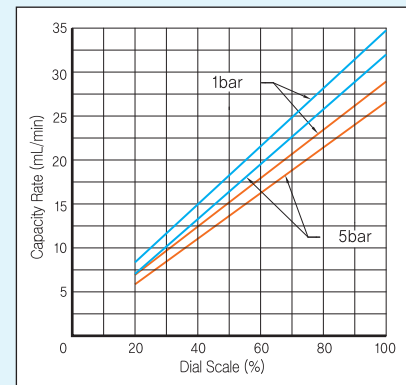
○ KD-52H



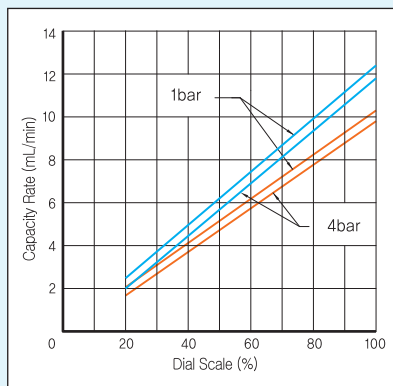
○ KD-23H



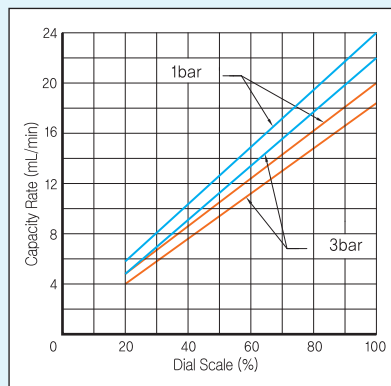
○ KD-73H



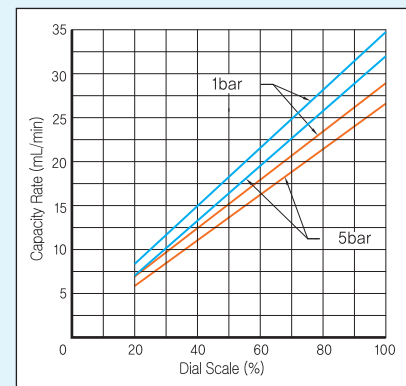
○ KD-14N



○ KD-24L



○ KD-34H



Note) The performance curves show examples at our facility under regular conditions. Performance curves can be somewhat different at each local site. Please measure the discharge capacity under the operation conditions, and adjust the stroke length dial on its performance curves.

Precautions for installation and Piping

KEMPION Diaphragm Metering Pumps are reciprocating metering pumps utilizing the eccentric cam and return spring. It is natural that pulsation should occur in the suction and discharge piping. Precaution in pump installation and piping in order to dampen the pulsation is required, in contrast to those of general centrifugal pump.

1. Countermeasure for Damping of Pulsation (Inertial resistance)

- (1) Install pulsation damping device (air chamber)
- (2) · Reduce the total discharge piping length
· Enlarge diameter of the discharge piping

2. Countermeasure for Prevention of Overfeeding

- (1) Install air chamber (2) Install back pressure valve.

When placing Order

In order to provide the most suitable pump, please provide the following information.

1. Specification of Liquid

- (1) Liquid name (2) Ingredients (3) Concentration (4) Temperature (5) Viscosity

2. Conditions of installation

- (1) Process of use (2) Required discharge volume (3) Suction side piping (4) Discharge side piping
(5) Power source (6) Ambient temperature (7) Installing location & Mounting method (8) Operating condition

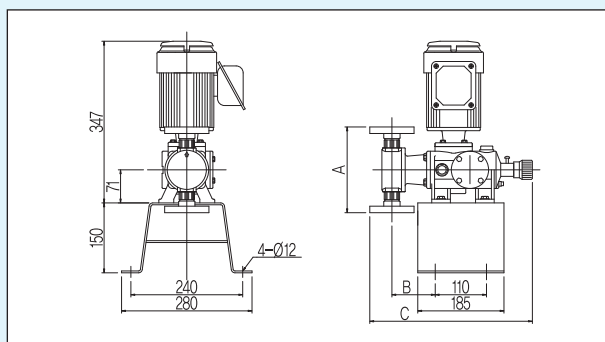
1. Other

- Desired delivery date and place
- Any other requirements

Dimension

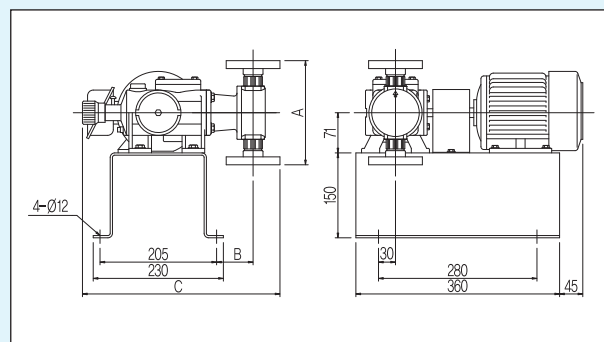
(Unit:mm)

○ KDV-21H,61H,12H,22H,52H,82H,13H,23H,33L,43L,73L,53L,63L



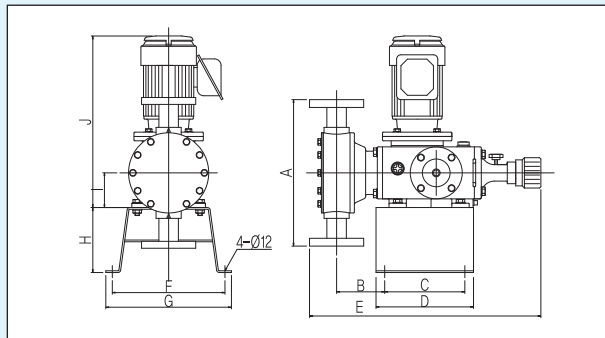
Model	Size	A			B			C		
		PTC	FTC	STS	PTC	FTC	STS	PTC	FTC	STS
21H		164	164	166	90	90	89	346	346	345
61H, 12H		164	164	166	91	91	90	347	347	346
22H, 52H		184	184	186	93	93	92	350	350	349
82H		190	190	192	93	93	93	349	349	349
13H, 23H		290	284	240	91	91	86	349	349	344
43L,33L, 73L, 53L, 63L		326	320	290	101	101	95	376	376	370

○ KDV-21H,61H,12H,22H,52H,82H,13H,23H,33L,43L,73L,53L,63L



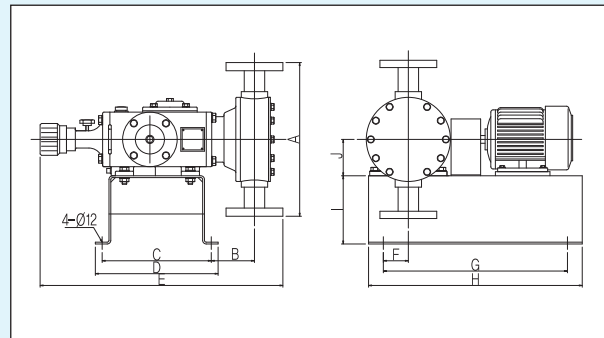
Model	Size	A			B			C		
		PTC	FTC	STS	PTC	FTC	STS	PTC	FTC	STS
21H		164	164	166	62	62	61	346	346	345
61H, 12H		164	164	166	63	63	62	347	347	346
22H, 52H		184	184	186	65	65	64	350	350	349
82H		190	190	192	65	65	65	349	349	349
13H, 23H		290	284	240	63	63	58	349	349	344
33L,43L, 73L, 53L, 63L		326	320	290	73	73	67	376	376	370

○ KDV-33H, 73H, 43H, 63H, 93M, 14N, 14M



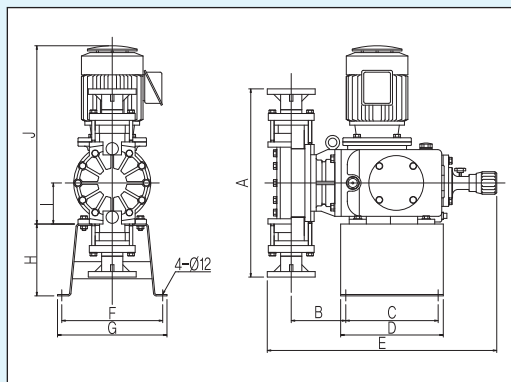
Model\Size	A	B	C	D	E	F	G	H	I	J	
33H, 73H	PTC	326	96			538					
	FTC	320	96	220	250	538	290	320	180	100	434
	STS	290	90			532					
43H, 63H, 93M, 14N, 14M	PTC	338	110			535					
	FTC	340	110	185	225	535	260	290	150	80	396
	STS	334	115			540					

○ KDV-33H, 73H, 43H, 63H, 93M, 14N, 14M



Model	Size	A	B	C	D	E	F	G	H	I	J
33H, 73H	PTC	326	69			538					
	FTC	320	69	270	300	538	83	450	510	190	90
	STS	290	63			532					
43H, 63H, 93M, 14N, 14M	PTC	338	94			535					
	FTC	340	94	240	270	535	55	290	470	150	80
	STS	334	99			540					

○ KDV-14H, 24L, 24S, 24H, 34H, 54L

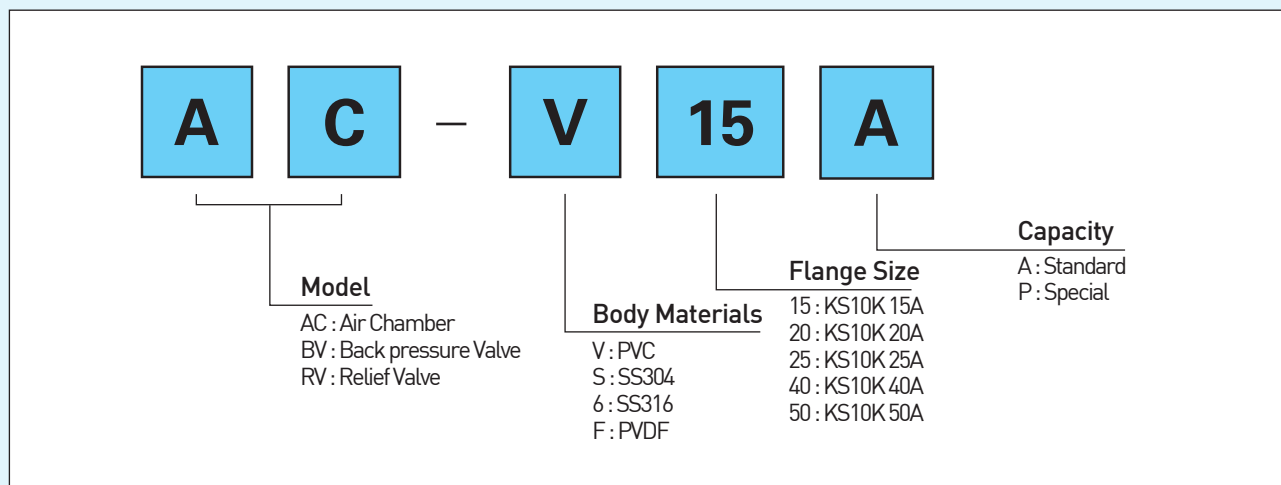


Model	Size	14H,14G,24L			24S			24H			34H			54L		
		PTC	FTC	STS	PTC	FTC	STS	PTC	FTC	STS	PTC	FTC	STS	PTC	FTC	STS
A		550	554	475	556	556	522	550	554	475	556	556	522	640	638	580
B		160	160	170	163	163	174	159	159	169	172	172	184	180	180	190
C				270			270			250			250			250
D				300			300			310			310			310
E		671	671	681	675	675	686	655	655	665	669	669	681	685	685	695
F				295			295			310			310			310
G				320			320			350			350			350
H				210			210			90			90			90
I				120			120			120			120			120
J				520			520			538			538			538

※The above specifications and design could be changed for improvement without prior notice.

Dimension

○ Model Code



○ Air Chamber



Reciprocating pump has a peculiar pulsation which results in vibration of piping and overfeed phenomena. Air chamber will be used to solve such problems caused by pulsation.

Model	Net Capacity (cm ³)	Max. discharge pressure(bar)	
		PVC	STS
AC-□15A	500	10	10
AC-□20A	1,000	10	10
AC-□25A	2,000	10	10
AC-□40A	4,000	9	10
AC-□40P	6,000	6	10
AC-□50A	10,000	5	10

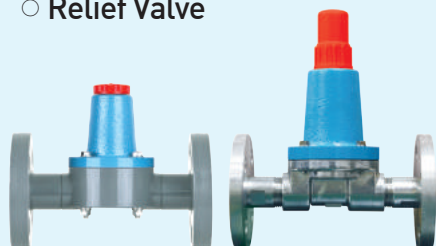
○ Back pressure Valve



According to the conditions of the piping, the discharge rate may be excessive or the pumping liquid may be continuously leaked in spite of stopping the pump which is caused by overfeed or siphon phenomena. The back pressure valve is for preventing such things.

Model	Pressure Control Range (bar)	Standard Setting Pressure (bar)
BV-□15A	0.5~3	1
BV-□20A	0.5~3	1
BV-□25A	0.5~3	1
BV-□40A	0.5~3	1
BV-□40P	0.5~3	1
BV-□50A	0.5~3	1

○ Relief Valve



When the discharge pressure increases to more than a setting point due to choking the valve with debris or closing the valve, the safety valve will open automatically to relieve the pressure. Relief valve prevents pump and piping from damages.

Model	Pressure Control Range (bar)	Standard Setting Pressure (bar)
RV-□15A	3~10	5
RV-□20A	3~10	5
RV-□25A	3~10	5
RV-□40A	3~10	5
RV-□40P	3~8	5
RV-□50A	3~8	3



DIAPHRAGM *Metering Pumps*