

Air pumps **APN** series



Diaphragm type air pump highly suited to system integration

The suction side of the diaphragm type air pump can be used as a vacuum pump, and the discharge side can be used as a compressor. The pump can feed clean air free of oil, carbon and other impurities. Compact and light, the pump has a wide range of applications when integrated into various systems such as gas analyzers, medical equipments, etc.

Draws in and supplies clean air

The diaphragm pump is directly connected to the motor and does not allow the ingress of oil or carbon into the system. The design is well suited to systems for supplying clean air.

Wide variety

Each model comes in two types (except 052 model); the single-head type and twin-head type. The diaphragm material can be either FKM, EPDM, NBR or PTFE. It is possible to select the pump best suited to each user's purpose.

High efficiency and long life

With a high performance motor, special diaphragm, and reinforced connecting rod, in addition to a special design to prevent bearing wear, the vacuum operation efficiency, start-up characteristic, and durability of the pump are enhanced.



P450NS

240NA

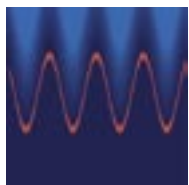
215C

110K

085HX

052-D

Applications



Analysis equipment

Deaerator, Atmospheric composition analyzer, Flue gas analyzer, Spectrophotometer (material absorption), Leakage tester, Dust counter



Chemical/Laboratory equipment

Vacuum fusion furnace, Aspirator, Vacuum filter, Liquid chromatography, Particle counter, Leakage tester, Spray, Turbidimeter, Cultivator, Germ-free thermostat, Micro air-born dust collector, Agitator



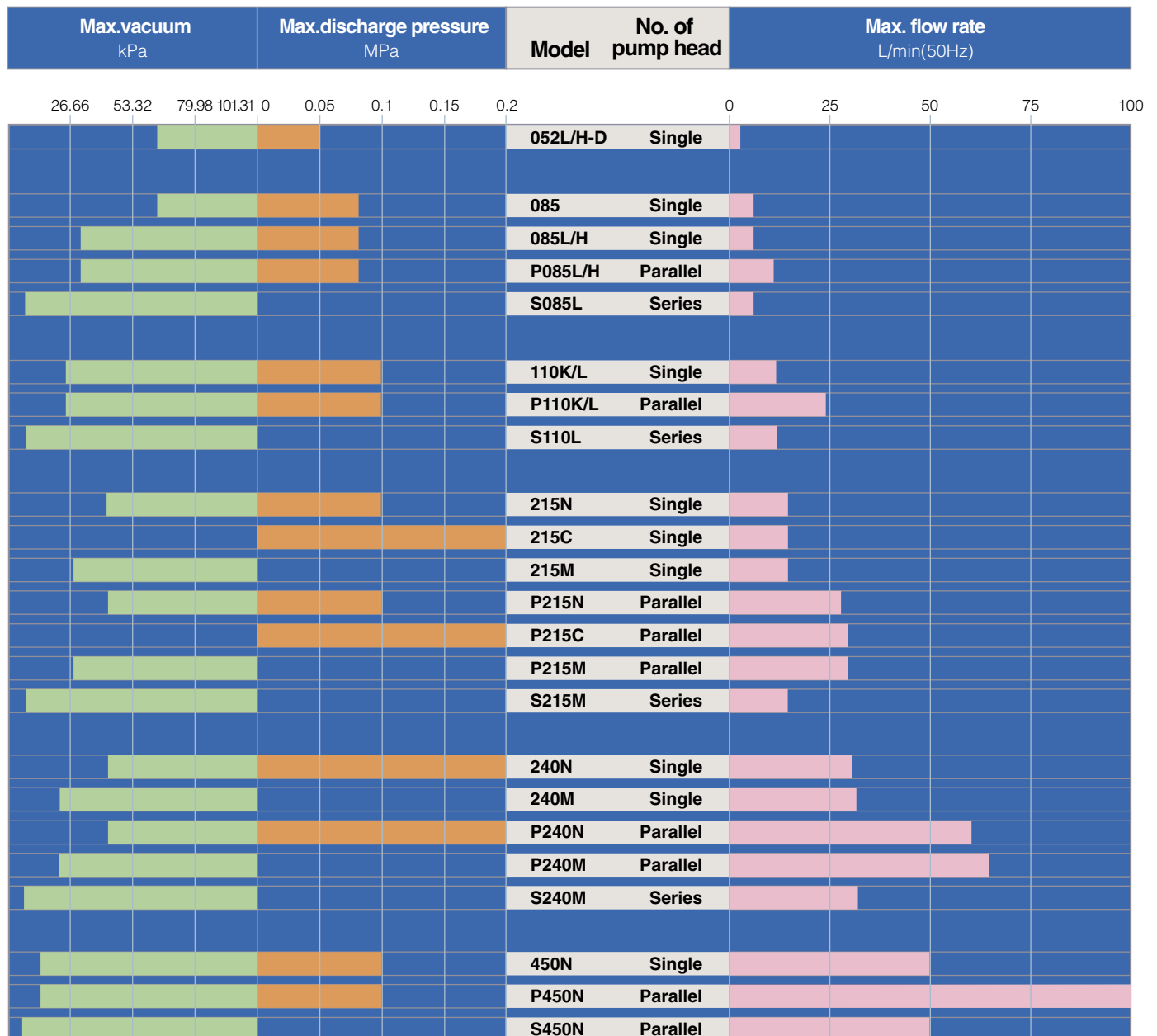
Medical equipment

Aspirator, Nebulizer, Low-frequency pulse treatment machine, Sphygmomanometer, Biochemical analyzer, Endoscope X-ray gas sterilizer (film suction and feed), Milking machine, Artificial respirator, Interferometric treatment machine



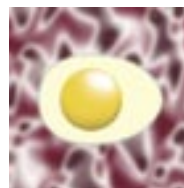
Industrial equipment

Molding machine (vacuum degasification), Solder machine, Cleaner, Vacuum tweezers, Auto-wrapping machine, Ozonizer, Hydraulic chuck, Glass grinder, Dispenser, Atomizer, Solvent recollector, Air tool, Air brush, Air-born dust collector



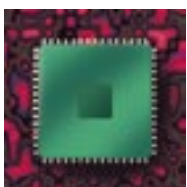
Print/Photo-processing equipment

Copy machine (paper feed), Print machine (film suction, film/paper feed), Automatic development machine (blower), Printer, Air bearing, Auto-stamping machine



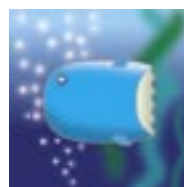
Food processing / Vending machine

Food packaging (vacuum pack, sealing), Soft drink dispenser machine (cup type), Defreezer, Labeling machine, Egg lifter, Foaming machine, Deaerator



Electrical/Electronic equipment

PCB suction and feeding machine, Clean bench system, Wafer suction and feeding machine, Semiconductor manufacturing system, Laser equipment, Micro air-born dust collector



Dwelling equipment and Pet fish / Live fish

Boiler, Air mat, Jacuzzi bath, Deodorator unit, Air pot, Air lock, Air lift pump for the bath unit, Bubble-cleaning toilet, Compressed air spray, Blower, Ozonizer, Air lift pump

Pump variations

Single head type



Twin parallel heads type

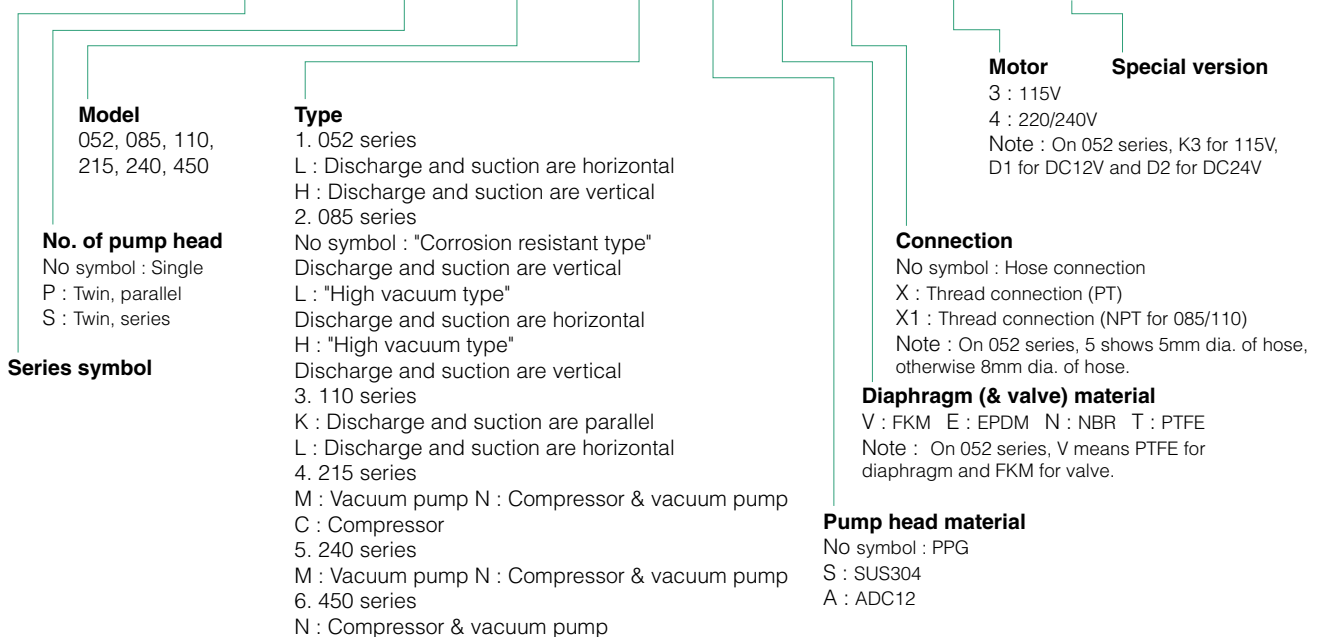


Twin series heads type



Pump identification

APN - P 450 N A V X - 4 - 01



Pump application guide


 Available  Not available

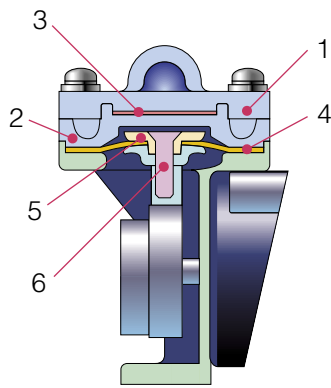
Model	Compressor	Vacuum	Pumphead			Connection					
			Single	Parallel	Series	Hose Parallel	Hose Straight	Hose Vertical	Thread Parallel	Thread Straight	Thread Vertical
052L											
052H											
085											
085L											
085H											
110K											
110L											
215N											
215C											
215M											
240NA											
240MA											
450NA											
450NS											

Specifications

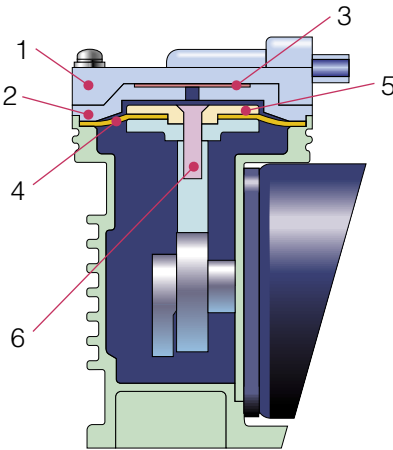
Model	Max. capacity L/min 50/60Hz	Max. discharge pressure MPa	Max. vacuum kPa	Connection size IN/OUT	Motor		Mass kg
					Power source	Rated output	
052L/H,D	1.8	0.05	61.32	Hose 8mm, 5mm	DC12/24V	DC12V 4.8W DC24V 4.9W	0.5
085	5/6	0.08	61.32	Hose 8mm, Rc1/4, G1/4	AC220/240V /50Hz or 115V/60Hz	10W	1.9
085L/H			34.66				
P085L/H	10/12	–	7.99	Hose 8mm, Rc1/4		15W	2.6
S085L	5/6	–	7.99	Hose 8mm, Rc1/4		10W	2.5
110K	12/14	0.1	23.99			25W	3.8
P110L	24/28	–	7.99	Hose 9mm, G1/8		30W	3.5
S110L	12/14	0.1	39.99				
215N	15/18	0.2	–			Hose 14mm, G1/4	45W
215C		–	26.66				
215M	28/32	0.1	39.99	Hose 14mm, G1/4		60W	7.0
P215N	30/36	0.2	–				
P215C	–	26.66	Hose 14mm, G1/4	90W	10.0		
P215M	15/18	–				7.99	
S215M	30/34	0.2	41.32	Rc1/4	200W	A:12.0 S:14.1	
240NA	32/36	–	21.33				
240MA	60/68	0.2	41.32	Hose 12mm, Rc1/4	200W	A:12.8 S:17.0	
P240NA	64/72	–	21.33				
P240MA	32/36	–	6.66	Hose 12mm, Rc1/4	200W	A:13.0 S:17.3	
S240MA	50/60	0.1	13.33				
450NA/S	100/110	0.1	3.33	Hose 12mm, Rc1/4	200W	A:13.0 S:17.3	
P450NA/S	50/60	–	–				
S450NA/S							

Construction

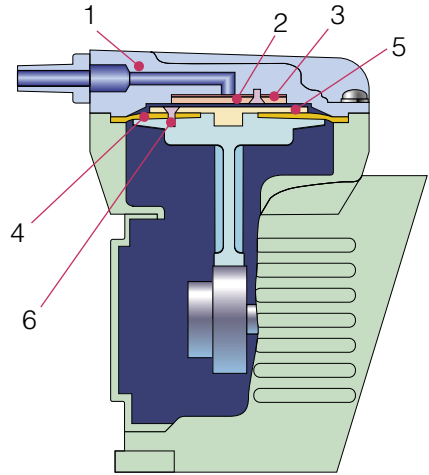
052L



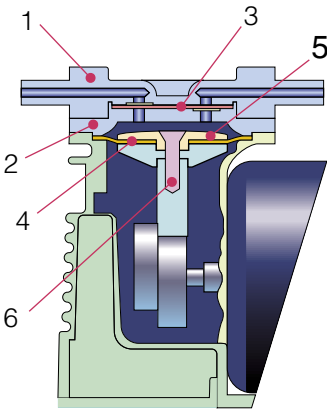
110K



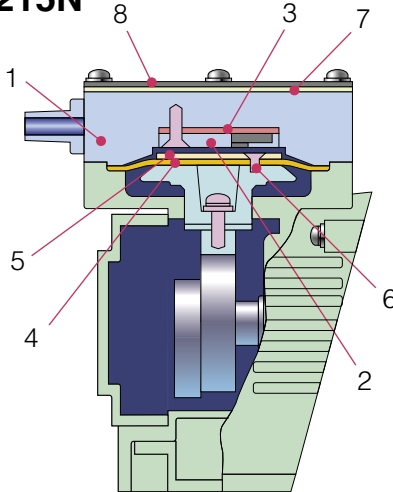
240NA



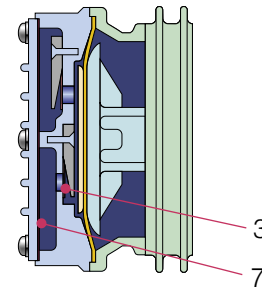
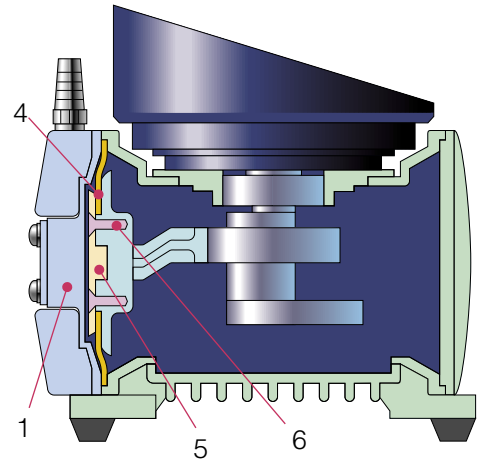
085L



215N



450NA



List of Available Materials

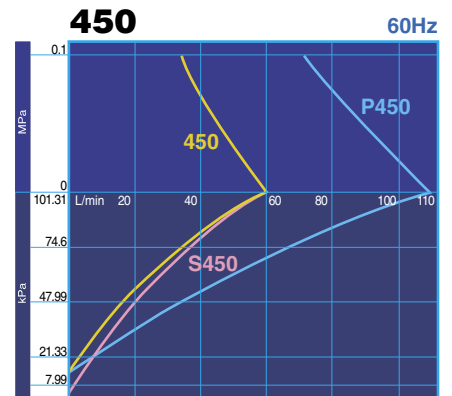
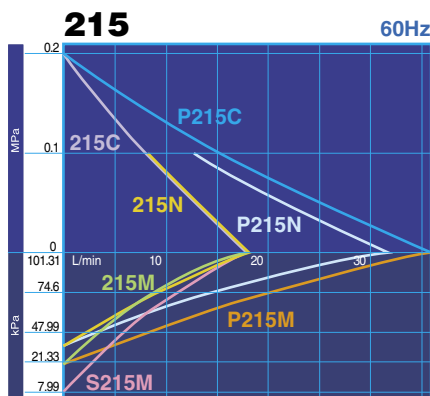
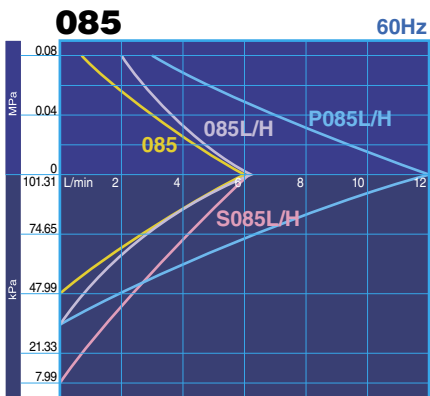
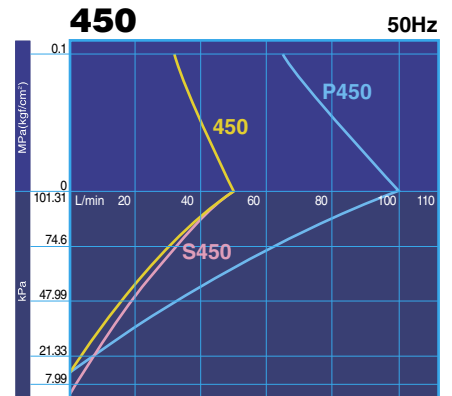
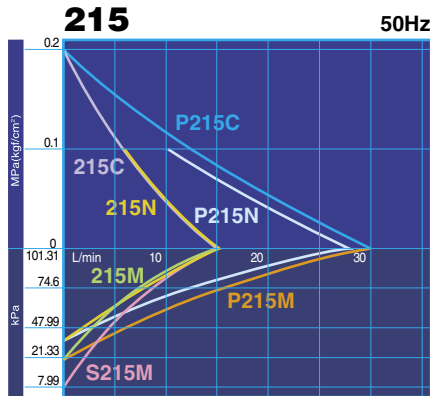
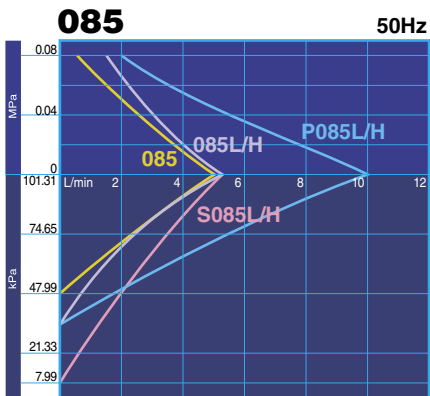
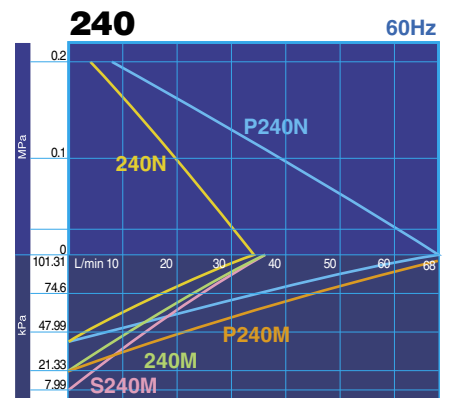
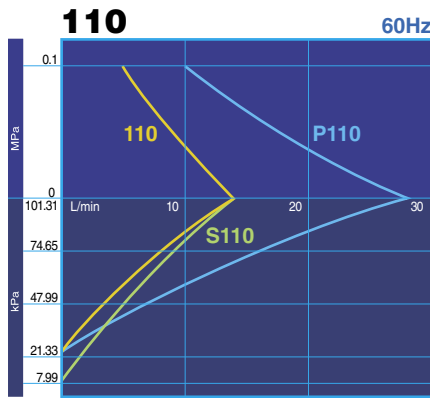
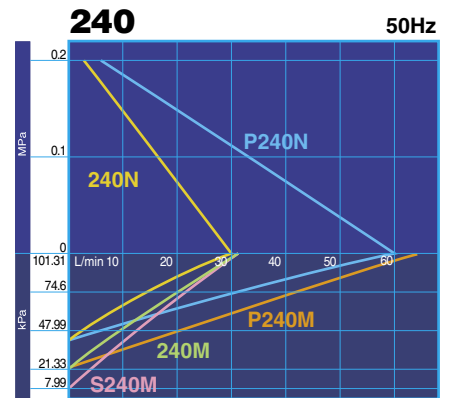
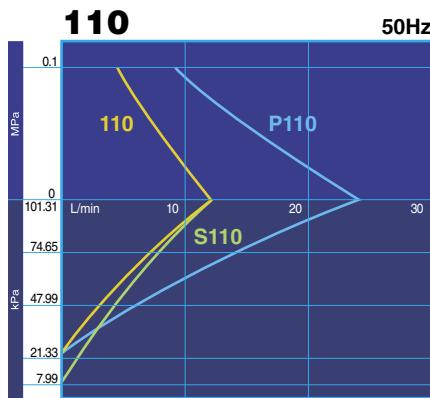
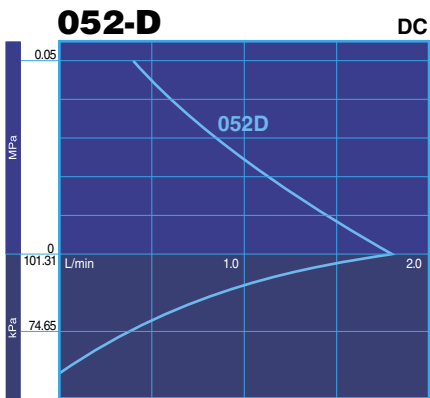
Symbol of Material	Name
GFRPP	Glass-fiber-reinforced polypropylene
GFRPPS	Glass-fiber-reinforced polyphenylene sulfide resin
GFRPA	Glass-fiber-reinforced polyamide resin
PTFE	Tetra-fluoroethylene resin
FKM	Fluorocarbon rubber
EPDM	Ethylene propylene rubber
NBR	Nitrile butadiene rubber
ADC12	Aluminum diecast
SUS304	Stainless steel 304
SUS631-CSP	Stainless steel (strip steel for spring)

Parts No. : 1. Pump head, 2. Valve seat, 3. Valve, 4. Diaphragm, 5. Retainer plate, 6. Screw, 7. Seal gasket, 8. Pump head cover

Materials

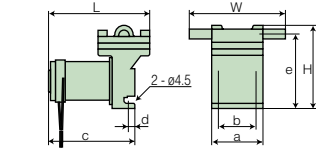
Model	052		085			110			215N		215C		215M		240	450		
	V	E	V	E	N	V	E	N	V	E	V	E	V	E		AT	ST	
Pump head	GFRPP		GFRPP			GFRPP			GFRPA		ADC12		GFRPP		ADC12	ADC12	SUS304	
Diaphragm	PTFE+EPDM	EPDM	FKM	EPDM	NBR	FKM	EPDM	NBR	FKM	EPDM	FKM	EPDM	FKM	EPDM	NBR	PTFE+EPDM		
Valve	FKM	EPDM	FKM	EPDM	NBR	FKM	EPDM	NBR	FKM	EPDM	FKM	EPDM	FKM	EPDM	FKM	SUS631-CSP		
Valve seat	GFRPP		GFRPP			GFRPP			GFRPPS						ADC12		—	

Performance curves



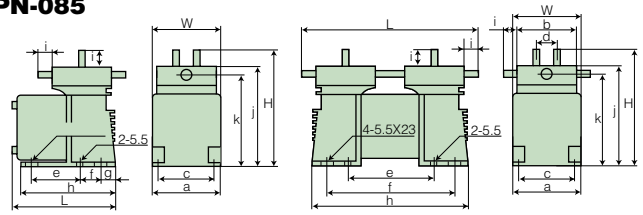
Dimensions in mm

APN-052



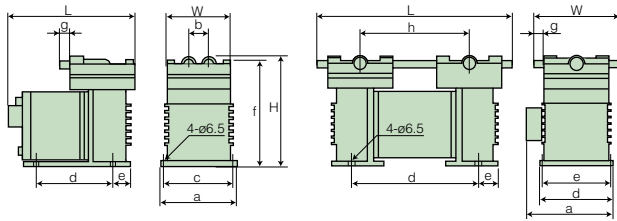
Model	W	H	L	a	b	c	d	e
APN-052H	-	78	90	46	32	77	6.5	-
APN-052L	86	75	-	-	-	-	-	67

APN-085



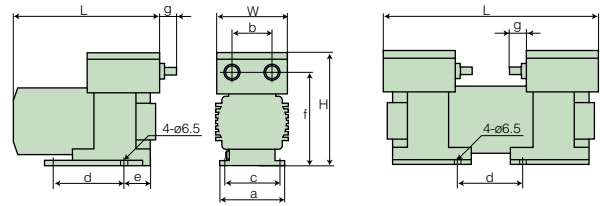
Model	W	H	L	a	b	c	d	e	f	g	h	i	j	k
APN-085	-	136	-	-	71	-	24	-	56.5	21.5	-	17	-	-
APN-085L	82.4	140	124	80	72	66	24	-	-	-	114	17	121	111
APN-085H	-	140	-	-	-	-	24	-	-	-	18	-	-	-
APN-P085L	-	140	-	-	-	-	24	108	151	-	188	17	121	111
APN-P085H	-	140	214	-	-	-	24	-	-	-	18	-	-	-
APN-S085L	-	-	-	-	-	-	-	-	-	-	17	121	111	-

APN-110



Model	W	H	L	a	b	c	d	e	f	g	h	i
APN-110K	78	152	-	24	91	-	-	-	-	-	-	-
APN-P110L	102	134	212	86	-	74	154	24	124	12	134	104
APN-S110L	78	-	236	-	-	-	-	-	-	-	-	-

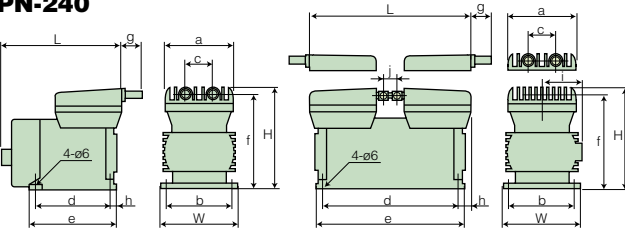
APN-215



Model	W	H	L	a	b	c	d	e	f	g
APN-215N	147	195	90	39	74	91	36	130	21	-
APN-215C	96	140	195	90	39	74	91	36	130	21
APN-215M	151	195	90	39	74	91	36	130	21	-

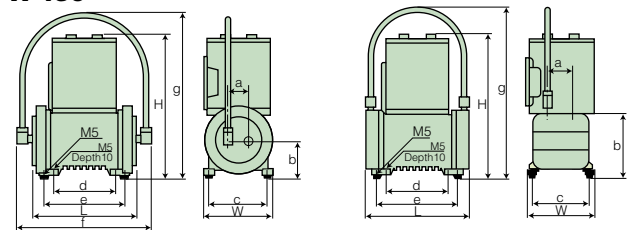
Model	W	H	L	a	b	c	d	e	f	g
APN-P215N	147	195	90	39	74	91	36	130	21	-
APN-P215C	96	140	282	110	39	78	90	84	130	21
APN-P•S215M	151	195	90	39	74	91	36	130	21	-

APN-240



Model	W	H	L	a	b	c	d	e	f	g	h	i	j
APN-240NAN/240MAN	-	186	219	-	-	-	135	159	-	35	-	-	-
APN-P240NAN/P240MAN	140	186	297	122	125	48	245	275	173	-	26	84	-
APN-S240MANX	-	-	-	-	-	-	-	-	-	-	-	30	-

APN-450



Model	W	H	L	a	b	c	d	e	f	g
APN-450NS	-	211	-	-	-	-	-	-	241	-
APN-P450NS	141	304	195	42	83	120	130	170	292	342
APN-S450NS	-	-	-	-	-	-	-	-	-	-

Model	W	H	L	a	b	c	d	e	f	g
APN-450NA	-	209	-	-	-	-	-	-	-	-
APN-P450NA	141	304	277	54	145	120	130	170	-	-
APN-S450NA	-	-	-	-	-	-	-	-	-	361

Optional accessory

Filter and Muffler

To be used as muffler when installed at discharge side and also as filter when installed at suction side. (Check valve incorporated filter is available as option)



AF-2 V-1 C

	1	2	3
1. Materials	V : FKM E : EPDM N : CR/NBR(Gasket, O ring, Check valve)		
2. Connection	1 : 1/8(For type 215) 2 : 1/4(For type 085 and 110)		
3. Option	C : With Check valve		

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()Country codes

Caution for safety use: Before use of pump, read instruction manual carefully to use the product correctly. Actual pumps may differ from the photos. Specifications and dimensions are subject to change without prior notice. For further details please contact us.