

Air Pumps

Built-in air pumps assure a long operating time



Single and twin head types are available for the APN series.
Selectable thread or hose joint further widen an application range.
The BA series are capable of sending corrosive-/heated-gas.



Most appropriate for built-in applications

Diaphragm air pumps



The APN series, diaphragm air pumps, are compact and have motor-driven diaphragms. A highly-efficient motor and a special diaphragm, an enlarged bearing and an enhanced connecting rod have greatly improved vacuum performance, a starting characteristic and durability. The APN can fit to various applications, including gas sampling and medical equipment.

Clean air transfer

The motor-driven diaphragm pumps are oil-/carbon-free and are highly air-tight. Most suitable in medical or sampling equipment where air cleanliness is required.

Highly-efficient design

A use of moulded parts enhances the pump performance and efficiency. The high-power motor also improves the starting characteristic.

Long life design

Fiber reinforced diaphragms, enlarged bearings and enhanced connecting rods have further improved reliability and durability in order for the pump to run over an extended time period in a continuous operation.

Easy maintenance

The pump head consists of only a few parts and can easily be dismantled and assembled.

Wide variations

Either single- or twin-head type is selectable. Also, EPDM, FKM, NBR or PTFE diaphragm and hose/thread connections are available. A number of combinations (more than 60) varies the APN according to an intended use.

NOTE: A diaphragm material and a suction bore shape differs with models.

Applications

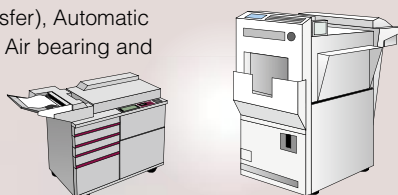
Analysers

Deaerator, Air analyser, Flue-gas analyser, Biochemical analyser, Spectral photometer, Leak tester and Dust counter.



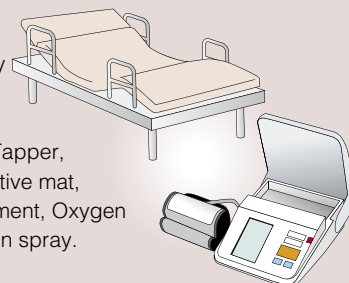
Printing and Automatic processing

Copy machine (paper transfer), Printing machine (film adsorption/ paper transfer), Automatic processor (blower), Printer, Air bearing and Automatic stamper.



Medical equipment

Aspirator, Nebulizer, Low-frequency therapy equipment, Blood-pressure gauge, Endoscope, X-ray film adsorption/transfer, Gas sterilizer, Tapper, Artificial respirator, Bedsore preventive mat, Interferential current therapy equipment, Oxygen generator and Normal saline solution spray.



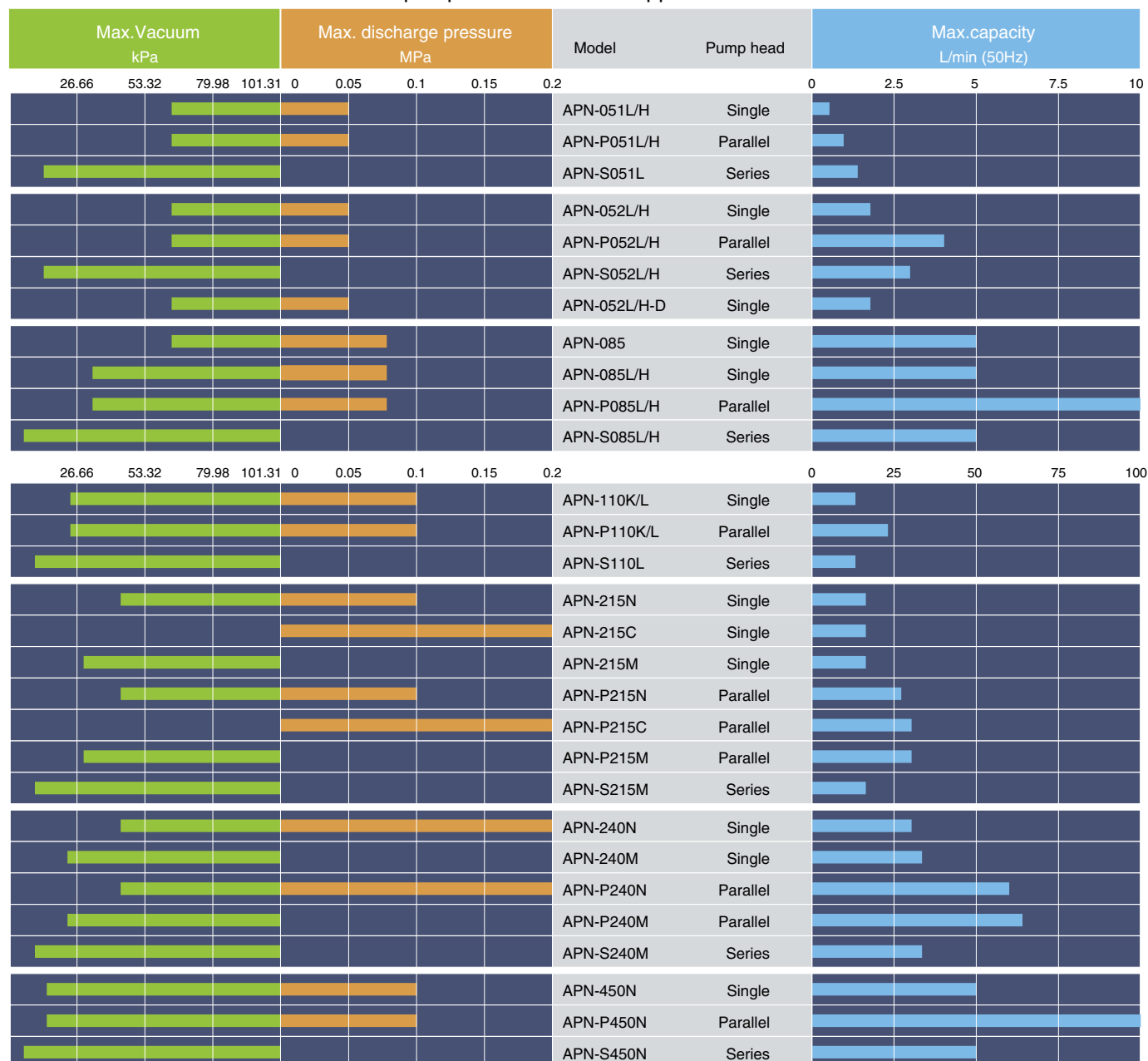
Electronics

PCB adsorption/transfer, Clean bench, Wafer adsorption/transfer, Semiconductor manufacturing equipment, Laser equipment and Micro air duster.



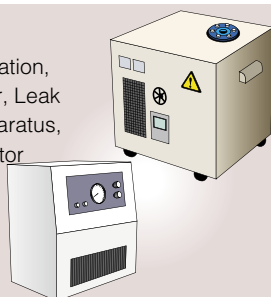
Either single or twin pump head type is selectable.

Thread and hose connections allow the pump to fit into various applications.



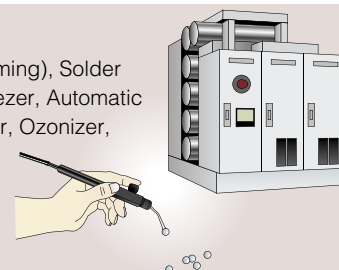
Physics and chemistry

Vacuum furnace, Aspirator, Vacuum filtration, Liquid chromatography, Particle counter, Leak tester, Spray, Turbidimeter, Culture apparatus, Aseptic bath, Micro air duster and Agitator



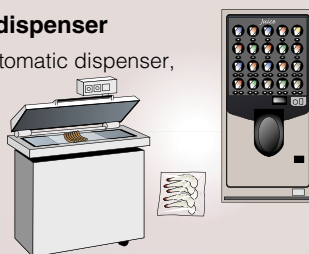
Industrial machine

Forming machine (vacuum defoaming), Solder adsorption, Washer, Vacuum tweezer, Automatic packaging, Automobile oil charger, Ozonizer, Vacuum chuck, Glass engraver, Solvent recovery, Lifter, Air tool, Air brush and air duster.



Food industry and Automatic dispenser

Food pack (vacuum packaging), Automatic dispenser, Thawing machine, Labelling machine, Bubbling machine and Deaerator



Aquarium fish and Live fish

Blower, Ozonizer, Air lift and Underwater camera



Pump variations

Single head type



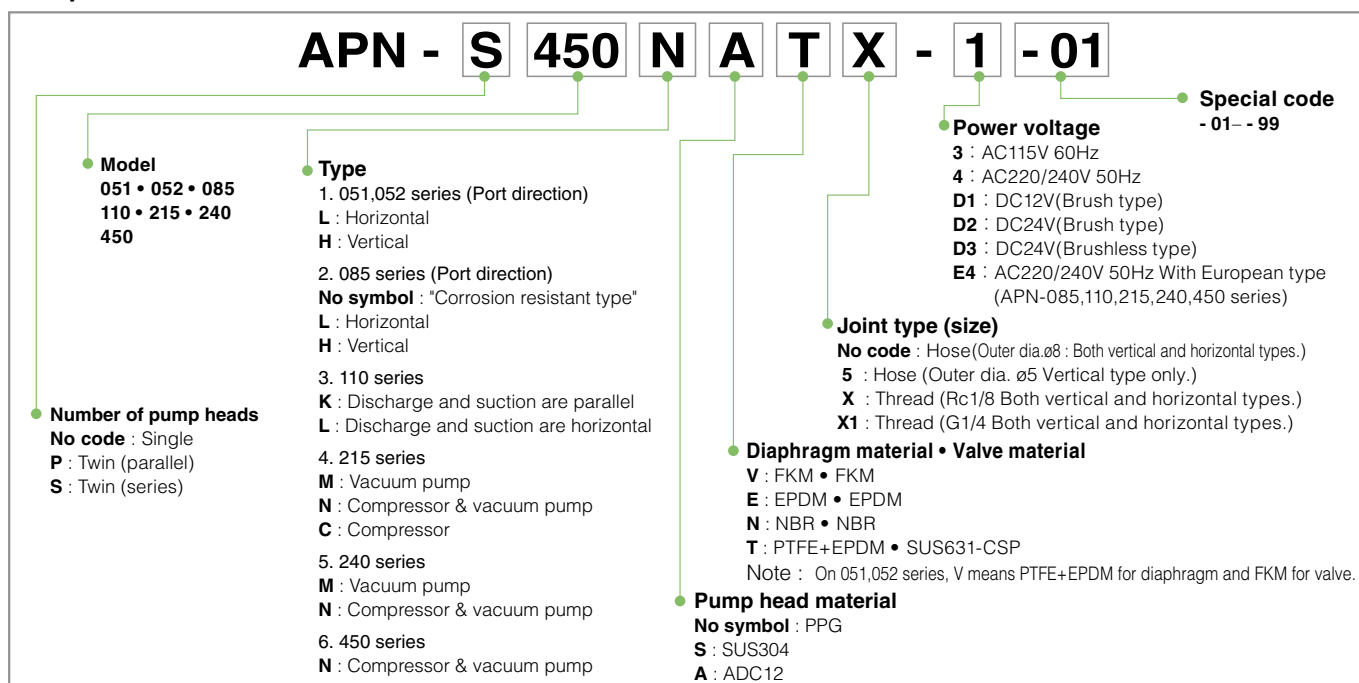
Twin parallel heads type



Twin series heads type



Pump identification



Pump application guide

Available Available Not Available

Model	Compressor	Vacuum	Pumphead			Connection					
			Single	Parallel	Series	Hose Parallel	Hose Straight	Hose Vertical	Thread Parallel	Thread Straight	Thread Vertical
APN-051L											
APN-051H											
APN-051H5											
APN-052L											
APN-052H											
APN-052H5											
APN-085											
APN-085L											
APN-085H											
APN-110K											
APN-110L											
APN-215N											
APN-215C											
APN-215M											
APN-240NA											
APN-240MA											
APN-450NA											
APN-450NS											

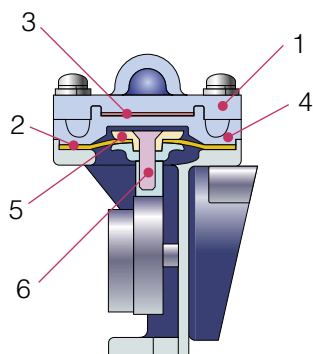
Specifications AC115V(60Hz)/AC220·240V(50Hz)

Model	Max.capacity L/min			Max.discharge pressure MPa	Max.vacuum kPa	Connection size		Motor						Mass kg		
	AC 115V	AC 220 · 240V	DC			Hose	Screw	Input W			Current A					
								AC 115V	AC 220 · 240V	DC	AC 115V	AC 220 · 240V	DC			
APN-051L/H/H5	0.7	0.6	—	0.05	61.32	ø8, ø5	Rc1/8	15	14	—	0.15	0.14	—	0.5		
APN-P051L/H/H5	1.4	1.2		—	—	13.33	ø8	—	20	18	—	0.2	0.18	—	0.85	
APN-S051L	1.8	1.5		—	—	13.33	ø8	—	—	—	—	—	—	—	—	
APN-052L/H/H5	2.1	1.8	—	0.05	61.32	ø8, ø5	Rc1/8	15	15	—	0.15	0.15	—	0.5		
APN-P052L/H/H5	4.2	3.6		—	—	13.33	ø8	—	36	30	—	0.36	0.3	—	0.85	
APN-S052L	3.6	3.0		—	—	13.33	ø8	—	—	—	0.8(DC24V)	—	—	0.25(DC24V)	0.5	
APN-051L-D3	—	—	1.0	0.05	61.32	ø8	—	—	—	4.8(DC12V)	—	—	1.25(DC12V)	0.5		
APN-052L/H-D1	—	—	1.8	0.05	61.32	ø8, ø5	—	—	—	4.9(DC24V)	—	—	0.63(DC24V)			
APN-052L/H-D2	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
APN-085	6.0	5.0	—	0.08	61.32	ø8	Rc1/4 G1/4	25	29	—	0.15	0.11	—	1.9		
APN-085L/H					12			10	34.66	38	38	—	0.3	0.15	—	2.6
APN-P085L/H					6.0			5.0	—	7.99	—	—	—	—	—	—
APN-110K	14	12	—	0.1	23.99	ø8	Rc1/4 G1/4	—	48	—	—	0.23	—	2.5		
APN-110L					28			24	—	68	—	—	0.33	—	3.8	
APN-P110L					14			12	—	7.99	—	—	—	—	—	—
APN-S110L	14	12	—	—	7.99	—	—	—	—	—	—	—	—	—		
APN-215N	18	15	—	0.1	39.99	ø9	G1/8	64	64	—	0.56	0.3	—	3.5		
APN-215C				0.2	—			—	—	—	—	—	—	—	—	—
APN-215M				—	26.66			—	—	—	—	—	—	—	—	—
APN-P215N	32	28	—	0.1	39.99	ø14	G1/4	95	95	—	0.93	0.5	—	5.2		
APN-P215C	36	30		0.2	—			—	—	—	—	—	—	—	—	
APN-P215M	36	30		—	26.66			—	—	—	—	—	—	—	—	
APN-S215M	18	15	—	—	7.99	—	Rc1/4	—	—	—	—	—	—	—		
APN-240NAN	34	30	—	0.2	41.32	ø14	G1/4	60	60	—	2.1	1.2	—	7.0		
APN-240MAN	36	32		—	21.33			90	90	—	3.2	1.9	—	10.0		
APN-P240NAN	68	60		0.2	41.32			—	—	—	—	—	—	—	—	
APN-P240MAN	72	64	—	—	21.33	—	Rc1/4	—	—	—	—	—	—	—		
APN-S240MANX	36	32	—	—	6.67	—	Rc1/4	—	—	—	—	—	—	—		
APN-450NA/S	60	50	—	0.1	13.33	ø12	Rc1/4	345	312(220V) 308(240V)	—	3.1	1.5•1.4	—	A12.0 \$14.2		
APN-P450NA/S	110	100												A12.8 \$17.1		
APN-S450NA/S	60	50												A13.0 \$17.4		

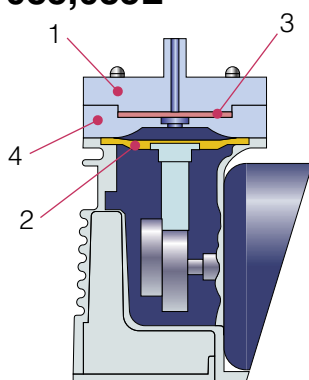
•Air flow temperature : 0-40°C •Ambient temperature : 5-40°C

Construction

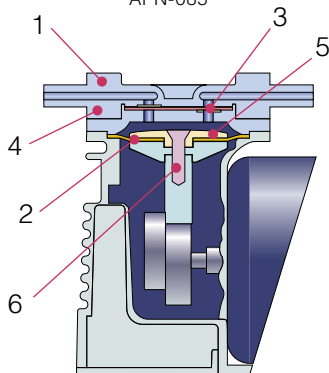
051L/052L



085,085L

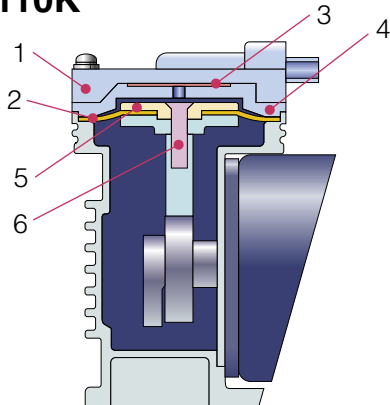


APN-085

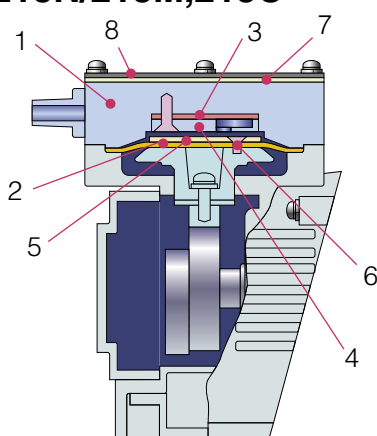


APN-085L

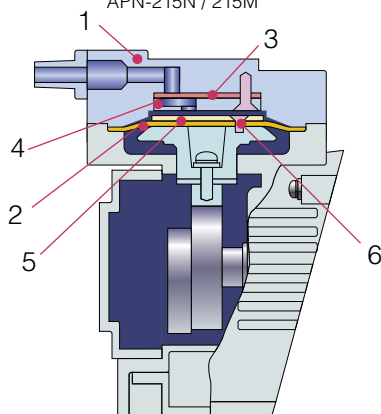
110K



215N/215M,215C

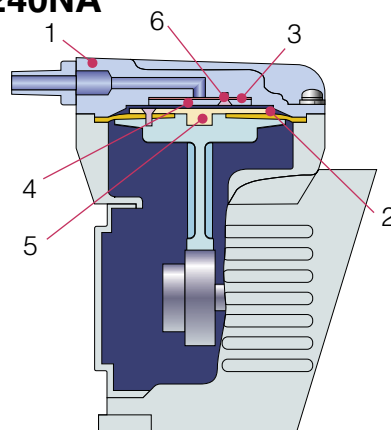


APN-215N / 215M

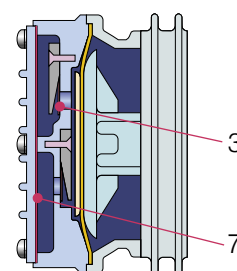
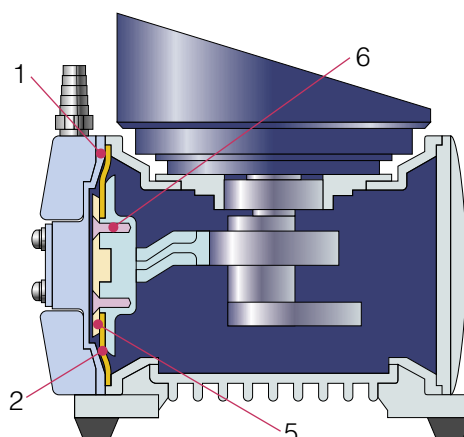


APN-215C

240NA



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
NBR
ADC12
SUS304
SUS631-CSP

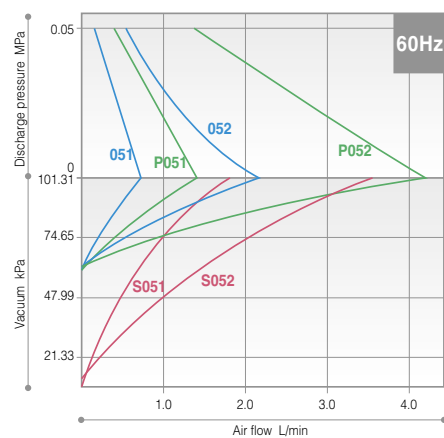
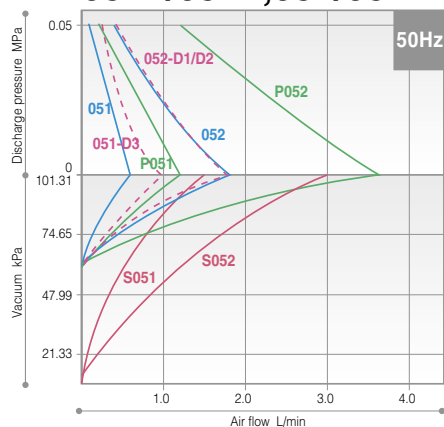
Ethylene propylene rubber
Nitrile butadiene rubber
Aluminum diecast
Stainless steel 304
Stainless steel (strip steel for spring)

Materials

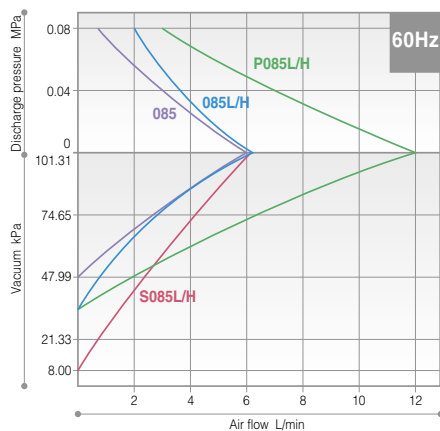
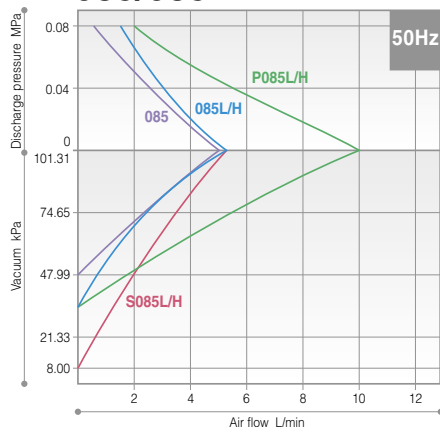
Model	051L,052L		085,085L			110K			215N		215C		215M		240	450	
Material code	V	E	V	E	N	V	E	N	V	E	V	E	V	E		AT	ST
1 Pump head	GFRPP		GFRPP			GFRPP			GFRPA		ADC12		GFRPP		ADC12	ADC12	SUS304
2 Diaphragm	PTFE+EPDM	EPDM	FKM	EPDM	NBR	FKM	EPDM	NBR	FKM	EPDM	FKM	EPDM	FKM	EPDM	NBR	PTFE+EPDM	
3 Valve	FKM	EPDM	FKM	EPDM	NBR	FKM	EPDM	NBR	FKM	EPDM	FKM	EPDM	FKM	EPDM	FKM	SUS631-CSP	
4 Valve seat	GFRPP		GFRPP			GFRPP			GFRPPS						ADC12	—	
5 Retainer plate	GFRPPS		GFRPPS			GFRPPS			GFRPPS						ADC12	ADC12	SUS304
6 Screw	SUS304		SUS304			SUS304			SUS304		SUS304		SUS304		SUS304	SUS304	
7 Seal gasket	—		—			—			FKM	EPDM	—		FKM	EPDM	—	EPDM	FKM
8 Pump head cover	—		—			—			SUS304		—		GFRPP		—	—	

Performance curves

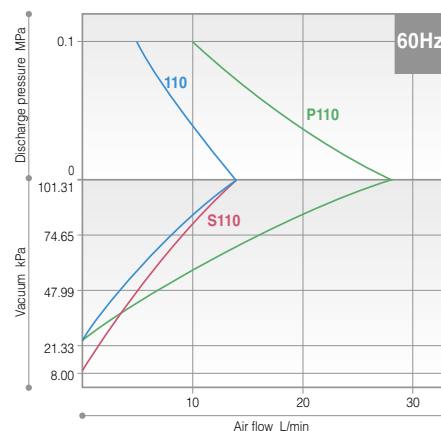
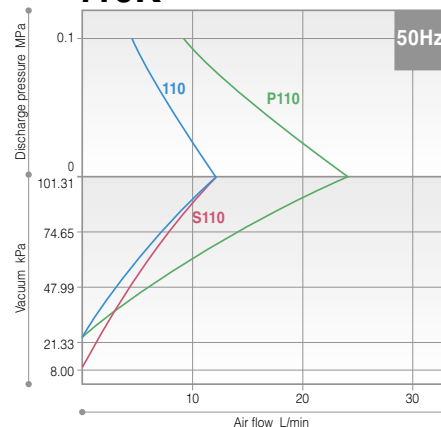
051L/052L,051/052DC



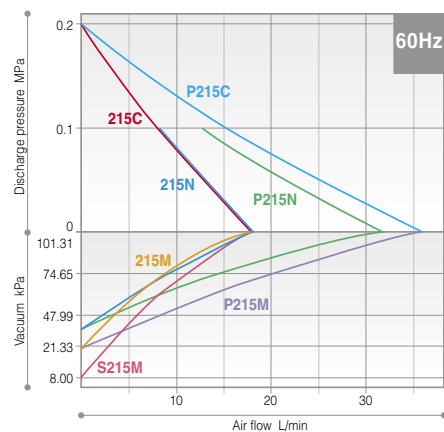
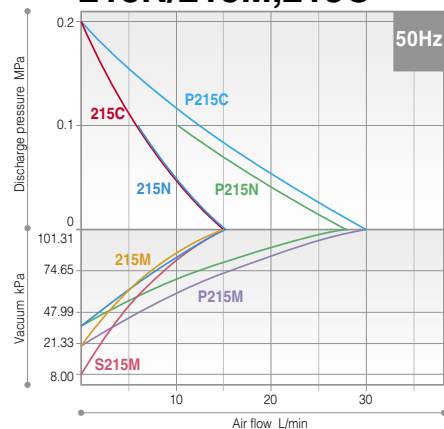
085/085L



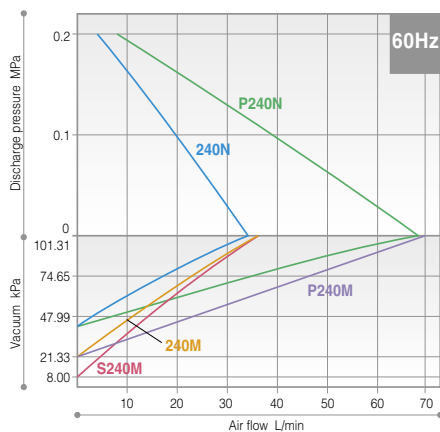
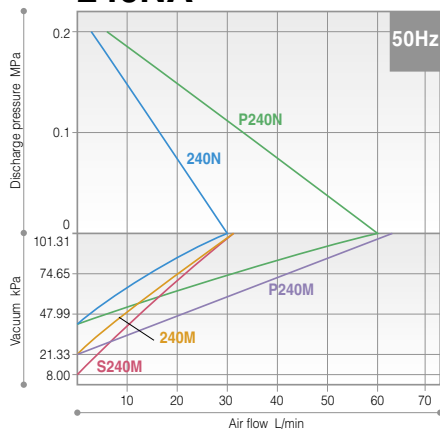
110K



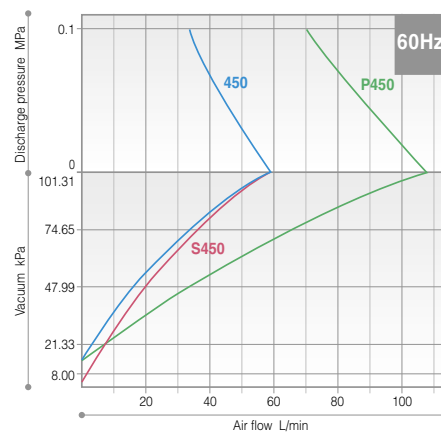
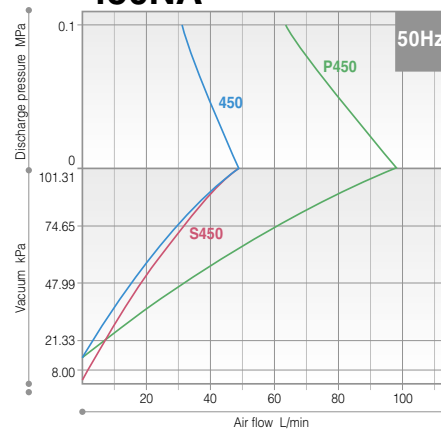
215N/215M,215C



240NA



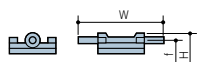
450NA



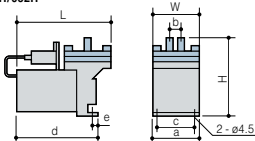
Dimensions in mm

APN-052

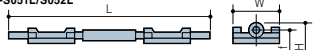
APN-051L/052L



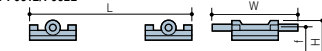
APN-051H/052H



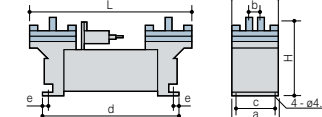
APN-S051L/S052L



APN-P051L/P052L



APN-P051H/P052H



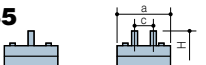
Model	W	H	L	a	b	c	d	e	f
APN-051L/052L	86	75	94	46	—	13	32	80	6.5
APN-051H/052H	46	78	—	—	—	—	—	—	—

• Motor D1/D2: 77mm, Motor D3: 76mm

Model	W	H	L	a	b	c	d	e	f
APN-S051L/S052L	46	78	162	13	—	—	—	—	—
APN-P051H/P052H	78	75	162	46	—	—	—	—	—
APN-S051L/S052L	46	75	202	—	—	—	—	—	—

APN-085

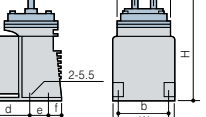
APN-085



APN-085L

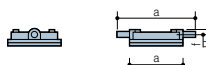


APN-085H

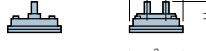


Model	W	H	L	a	b	c	d	e	f	g
APN-085	136	—	24	—	—	—	—	—	—	—
APN-085L	82.4	121	124	72	66	—	57	21.5	18.5	111
APN-085H	140	—	—	—	—	—	—	—	—	—

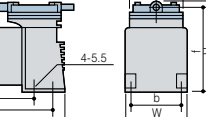
APN-P085L



APN-P085H



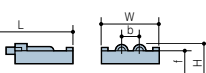
APN-S085L



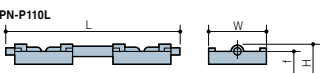
Model	W	H	L	a	b	c	d	e	f
APN-P085L	121	106	—	—	—	—	—	—	—
APN-P085H	82.4	140	188	72	66	—	24	108	151
APN-S085L	121	—	—	—	—	—	—	—	—

APN-110

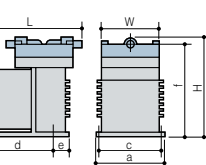
APN-110K



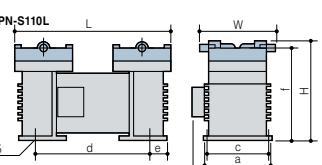
APN-P110L



APN-110L



APN-S110L

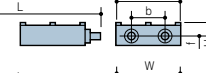


Model	W	H	L	a	b	c	d	e	f
APN-110K	78	134	152	86	24	—	74	91	24
APN-110L	164	—	—	—	—	—	—	—	—

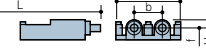
Model	W	H	L	a	b	c	d	e	f
APN-P110L	78	134	236	86	104	74	154	24	124
APN-S110L	102	—	212	—	—	—	—	—	—

APN-215

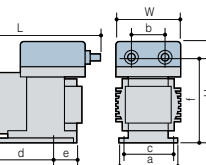
APN-215N



APN-215C

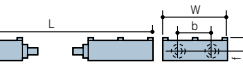


APN-215M

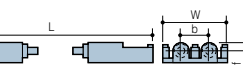


Model	W	H	L	a	b	c	d	e	f
APN-215N	147	—	50	—	—	—	—	—	—
APN-215C	96	140	195	90	39	74	91	36	130
APN-215M	151	—	50	—	—	—	—	—	—

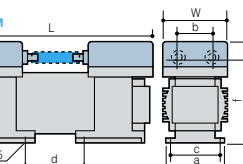
APN-P215N



APN-P215C



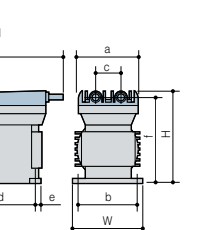
APN-P/S215M



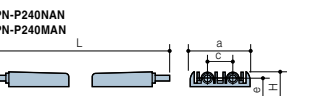
Model	W	H	L	a	b	c	d	e	f
APN-P215N	147	—	50	—	—	—	—	—	—
APN-P215C	96	140	282	110	39	78	90	84	130
APN-P/S215M	151	—	50	—	—	—	—	—	—

APN-240

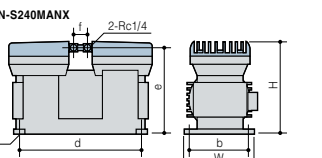
APN-240NAN



APN-P240MAN



APN-S240MANX

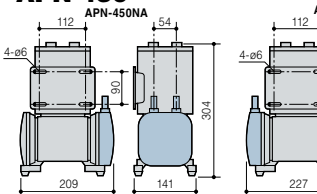


Model	W	H	L	a	b	c	d	e	f
APN-240NAN	140	186	219	122	125	48	135	26	173
APN-240MAN	—	—	—	—	—	—	—	—	—

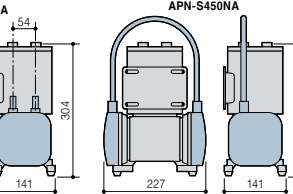
Model	W	H	L	a	b	c	d	e	f
APN-P240MAN	140	186	367	122	125	48	245	173	—
APN-S240MANX	297	—	—	—	—	—	—	—	—

APN-450

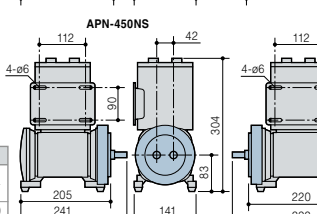
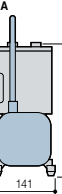
APN-450NA



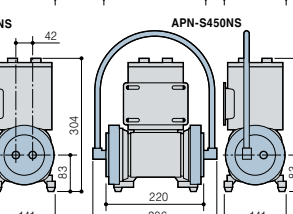
APN-P450NA



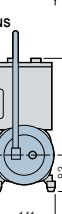
APN-S450NA



APN-P450NS



APN-S450NS



Model	W	H	L	a	b	c	d	e	f
APN-450NA	209	141	304	—	—	—	—	—	—
APN-P450NA	227	141	304	—	—	—	—	—	—
APN-S450NA	227	141	304	—	—	—	—	—	—
APN-450NS	205	141	304	—	—	—	—	—	—
APN-P450NS	220	141	304	—	—	—	—	—	—
APN-S450NS	220	141	304	—	—	—	—	—	—

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-2V-1C

	1	2	3
1. Materials	V : FKM	E : EPDM	
	N : CR/NBR(Gasket, O ring, Check valve)		
2. Connection	1 : G1/8(For type 215)		
	2 : G1/4(For type 085 and 110)		
3. Option	C : With Check valve		

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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.

Legal attention related to export.

Our products and/or parts of products fall in the category of goods contained in control list of international regime for export control. Please be reminded that export license could be required when products are exported due to export control regulations of countries.