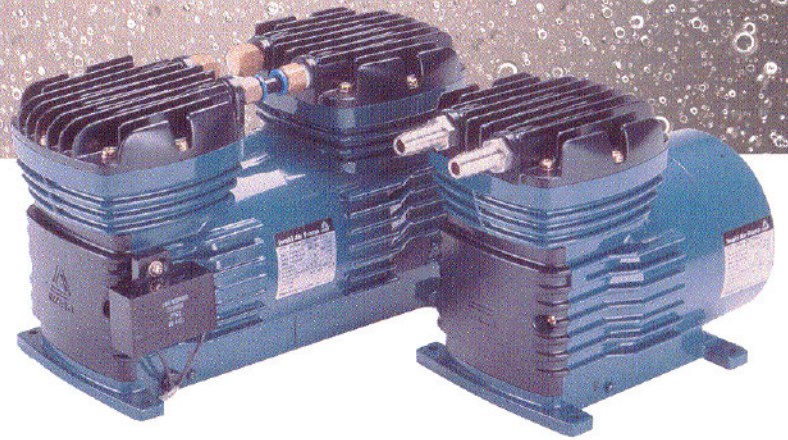


Air pumps **APN** series



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

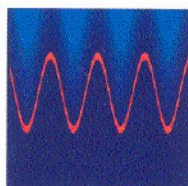
Each model comes in two types (except 052 model); the single-head type and twin-head type. The diaphragm material can be either FKM, EPDM, NBR or PTFE. It is possible to select the pump best suited to each user's purpose.

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.



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-borne 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



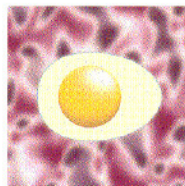
Industrial equipment

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-borne dust collector

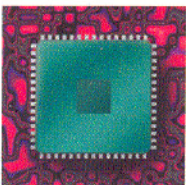
Max.vacuum kPa					Max.discharge pressure MPa					Model	No. of pump head	Max. flow rate L/min(50Hz)				
26.66	53.32	79.98	101.31	0	0.05	0.1	0.15	0.2			0	25	50	75	100	
										052L/H-D	Single					
										052L/H-K	Single					
										085	Single					
										085L/H	Single					
										P085L/H	Parallel					
										S085L	Series					
										110K/L	Single					
										P110K/L	Parallel					
										S110L	Series					
										215N	Single					
										215C	Single					
										215M	Single					
										P215N	Parallel					
										P215C	Parallel					
										P215M	Parallel					
										S215M	Series					
										240N	Single					
										240M	Single					
										P240N	Parallel					
										P240M	Parallel					
										S240M	Series					
										450N	Single					
										P450N	Parallel					
										S450N	Parallel					



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



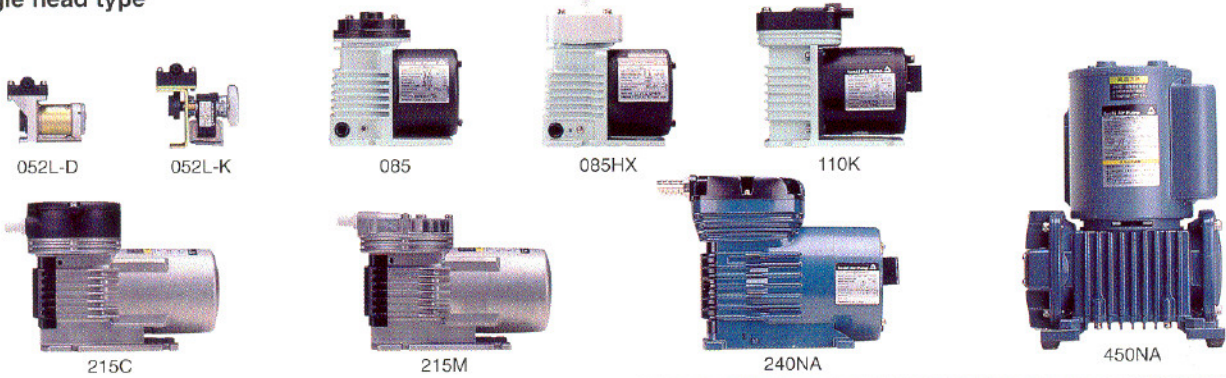
Electrical/Electronic equipment
PCB suction and feeding machine, Clean bench system, Wafer suction and feeding machine, Semiconductor manufacturing system, Laser equipment, Micro air-born dust collector



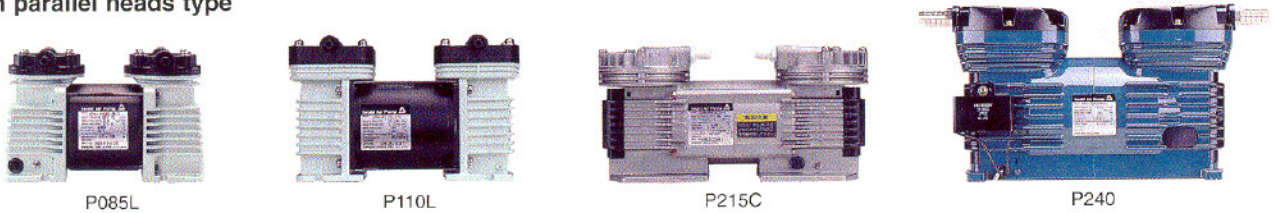
Dwelling equipment and Pet fish / Live fish
Boiler, Air mat, Jacuzzi bath, Deodorator unit, Air pot, Air lock, Air lift pump for the bath unit, Bubble-cleaning toilet, Compressed air spray, Blower, Ozonizer, Air lift pump

Pump variations

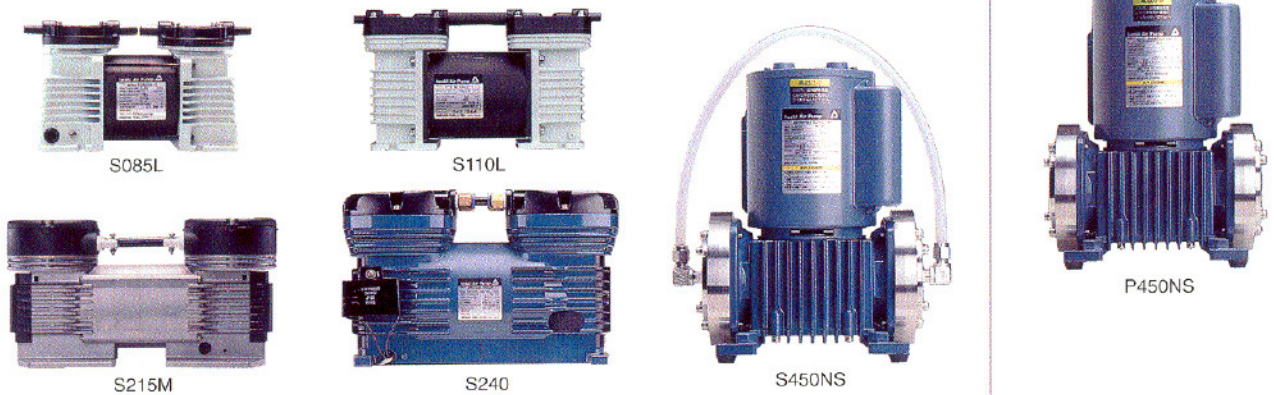
Single head type



Twin parallel heads type

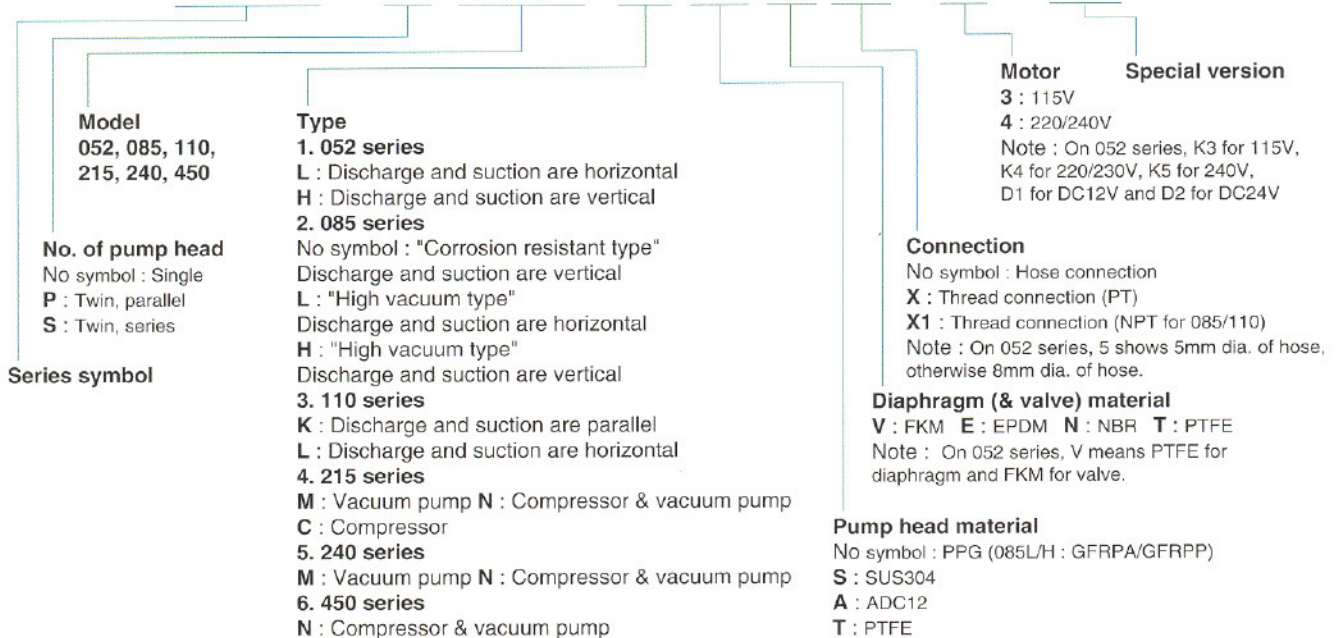


Twin series heads type



Pump identification

APN - P 240 N A V X - 4 - 01



Pump application guide

Available Not available

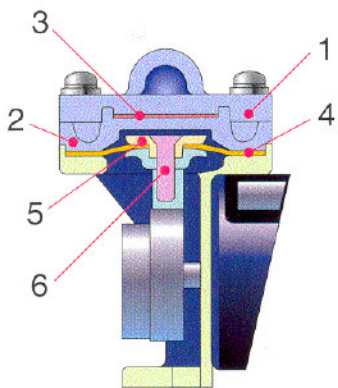
Model	Compressor	Vacuum	Pumphead			Connection					
			Single	Parallel	Series	Hose Parallel	Hose Straight	Hose Vertical	Thread Parallel	Thread Straight	Thread Vertical
052L	Available	Available	Available	Not available	Not available	Available	Available	Available	Not available	Not available	Not available
052H	Available	Available	Available	Not available	Not available	Available	Available	Available	Not available	Not available	Not available
085	Available	Available	Available	Not available	Not available	Available	Available	Available	Not available	Not available	Available
085L	Available	Available	Available	Not available	Not available	Available	Available	Available	Not available	Not available	Available
085H	Available	Available	Available	Not available	Not available	Available	Available	Available	Not available	Not available	Available
110K	Available	Available	Available	Not available	Not available	Available	Available	Available	Not available	Not available	Not available
110L	Available	Available	Available	Not available	Not available	Available	Available	Available	Not available	Not available	Not available
215N	Available	Available	Available	Not available	Not available	Available	Available	Available	Not available	Not available	Not available
215C	Available	Not available	Available	Not available	Not available	Available	Available	Available	Not available	Not available	Not available
215M	Not available	Available	Available	Not available	Not available	Available	Available	Available	Not available	Not available	Not available
240NA	Available	Available	Available	Not available	Not available	Available	Available	Available	Not available	Not available	Not available
240MA	Not available	Available	Available	Not available	Not available	Available	Available	Available	Not available	Not available	Not available
450NA	Available	Available	Available	Not available	Not available	Available	Available	Available	Not available	Not available	Not available
450NS	Available	Available	Available	Not available	Not available	Available	Available	Available	Not available	Not available	Available

Specifications

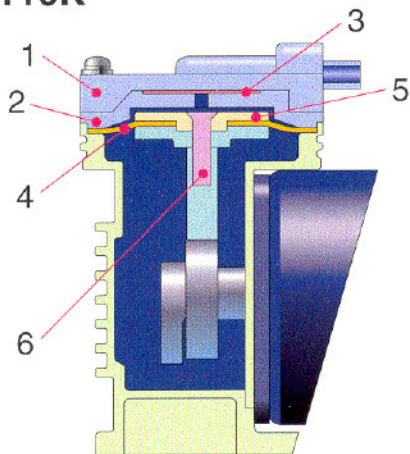
Model	Max.capacity L/min 50/60Hz	Max.discharge pressure MPa	Max. vacuum kPa	Connection size IN/OUT	Motor		Mass kg
					Power source	Rated output	
052L/H,K	1.5/1.8	0.05	61.32	Hose 8mm, 5mm	AC220/240V/50Hz or 115V/60Hz	2.1W	0.85
052L/H,D	1.8/1.8				DC12/24V	DC12V 4.8W DC24V 4.9W	0.5
085	5/6	0.08	61.32	Hose 8mm, Rc1/4, G1/4	AC220/240V /50Hz or 115V/60Hz	10W	1.9
085L/H						34.66	Hose 8mm, Rc1/4
P085L/H	10/12	10W	2.5				
S085L	5/6	—	7.99	Hose 8mm, Rc1/4		25W	3.8
110K	12/14	0.1	23.99			Hose 8mm, Rc1/4	30W
P110L	24/26						
S110L	12/14	—	7.99	Hose 9mm, G1/8		45W	5.2
215N	15/18	0.1	39.99				
215C		0.2	—	Hose 14mm, G1/4		60W	7.0
215M	—	26.66					
P215N	28/32	0.1	39.99	Hose 14mm, G1/4	90W	10.0	
P215C	30/36	0.2	—				
P215M		—	26.66	Hose 12mm, Rc1/4	200W	A:12.0 S:14.1	
S215M	15/18	—	7.99				
240NA	30/34	0.2	41.32	Rc1/4	200W	A:12.8 S:17.0	
240MA	32/36	—	21.33				
P240NA	60/68	0.2	41.32	Rc1/4	200W	A:13.0 S:17.3	
P240MA	64/72	—	21.33				
S240MA	32/36	—	6.66	Hose 12mm, Rc1/4	200W	A:13.0 S:17.3	
450NA/S	50/60	0.1	13.33				
P450NA/S	100/110	0.1	3.33	Hose 12mm, Rc1/4	200W	A:13.0 S:17.3	
S450NA/S	50/60	—	—				

Construction

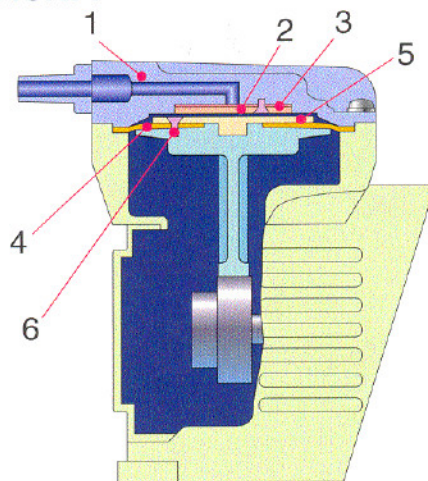
052L



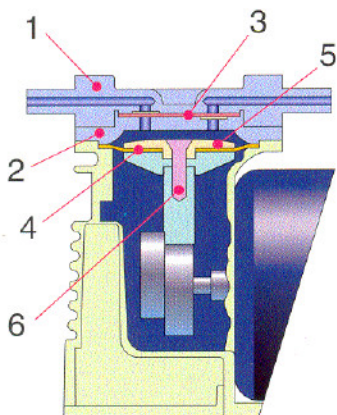
110K



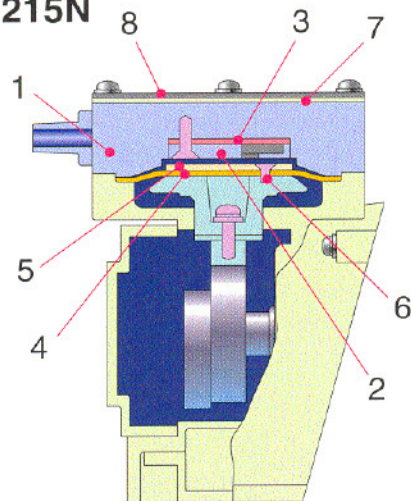
240NA



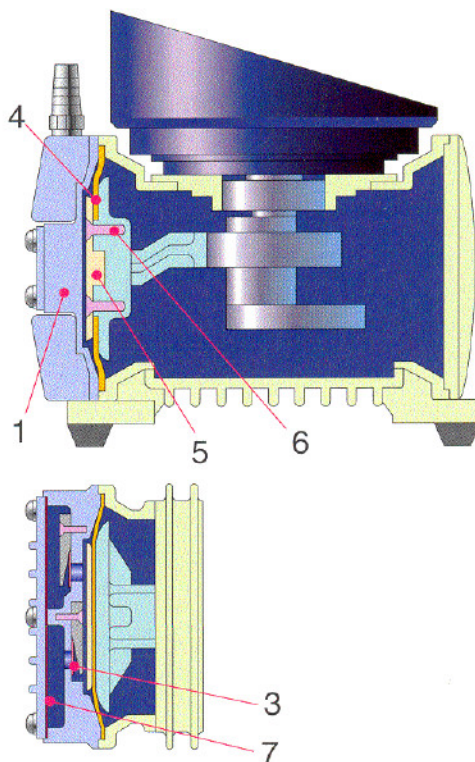
085L



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

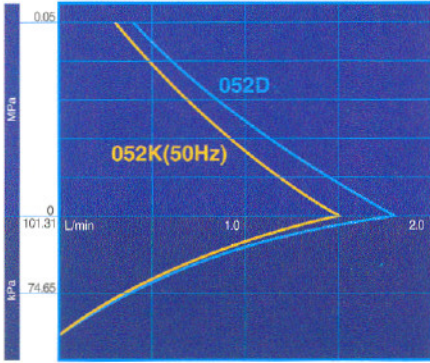
Materials

Model	052		085			110			215N		215C		215M		240	450	
	V	E	V	E	N	V	E	N	V	E	V	E	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

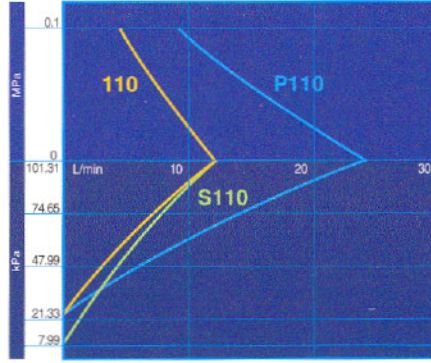
052-K.D

50Hz.DC



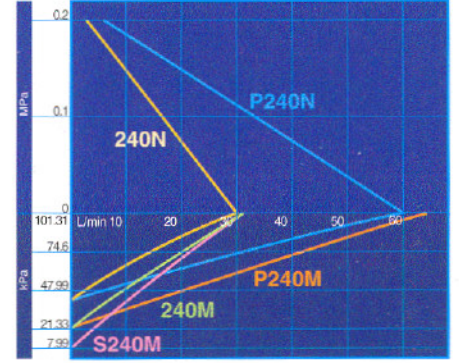
110

50Hz



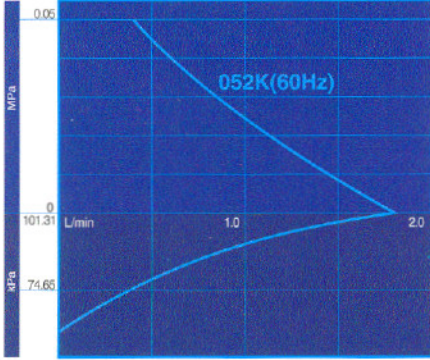
240

50Hz



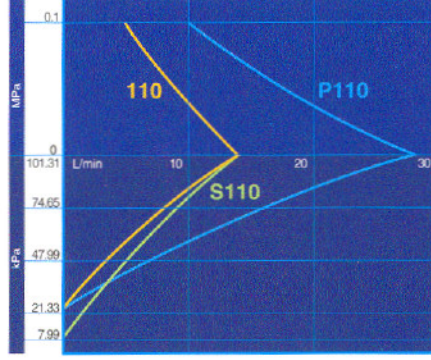
052-K

60Hz



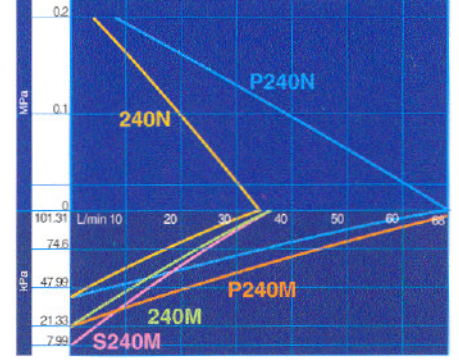
110

60Hz



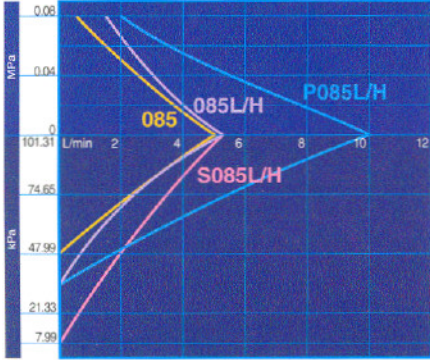
240

60Hz



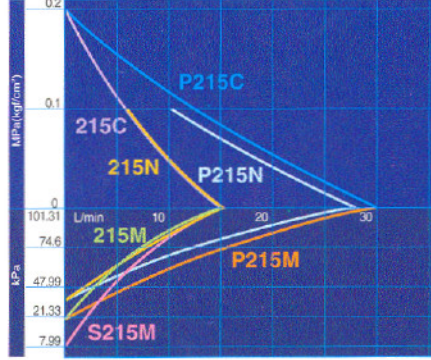
085

50Hz



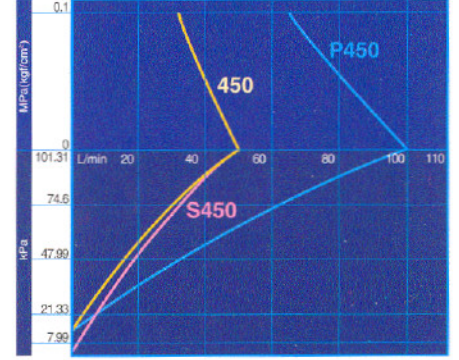
215

50Hz



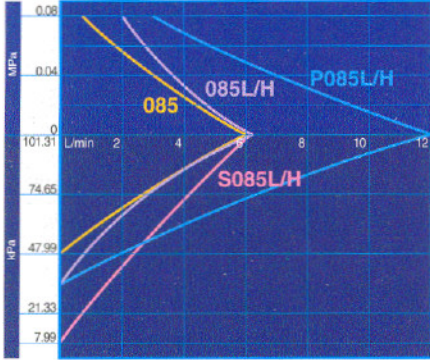
450

50Hz



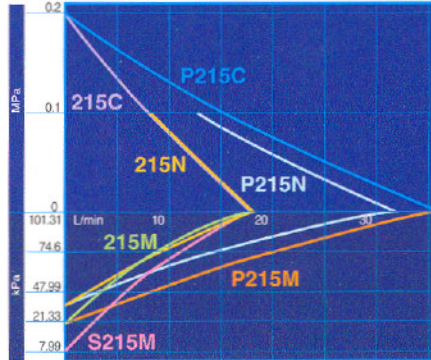
085

60Hz



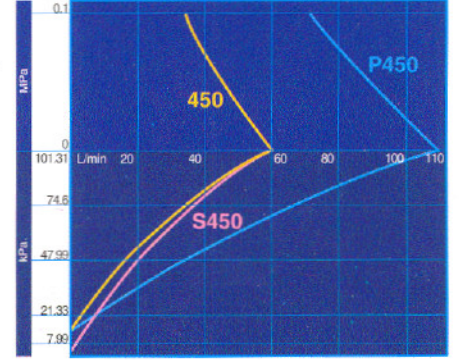
215

60Hz



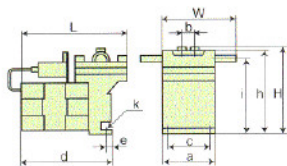
450

60Hz



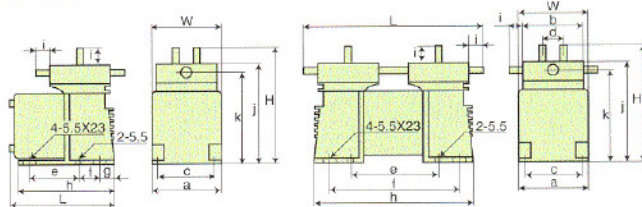
Dimensions in mm

APN-052



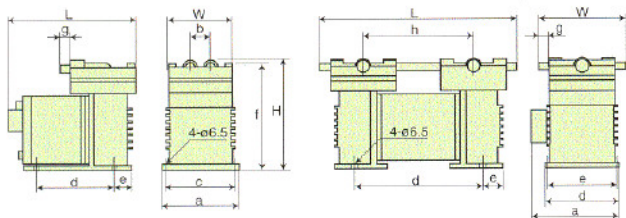
Model	W	H	L	a	b	c	d	e	f	g	h	i	j	k
APN-052H	-	78	94	-	13	-	80	-	-	-	-	-	-	2-ø4.5
APN-052L	86	-	-	-	-	-	-	-	-	-	75	67	-	-

APN-085



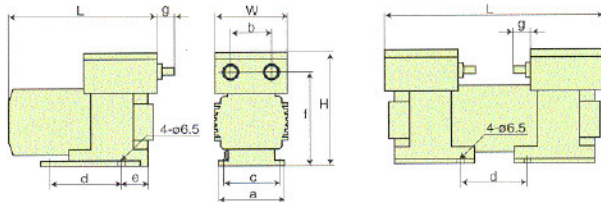
Model	W	H	L	a	b	c	d	e	f	g	h	i	j	k
APN-085	-	136	-	-	71	-	24	-	-	-	-	17	-	-
APN-085L	-	-	124	-	-	-	-	56.5	21.5	-	114	17	121	111
APN-085H	-	140	-	80	72	66	24	-	-	-	-	18	-	-
APN-P085L	-	-	-	-	-	-	-	-	-	18.5	-	17	121	111
APN-P085H	-	140	214	-	-	-	24	108	151	-	188	18	-	-
APN-S085L	-	-	-	-	-	-	-	-	-	-	-	17	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	-	-	-	-	-	-	-	-	-

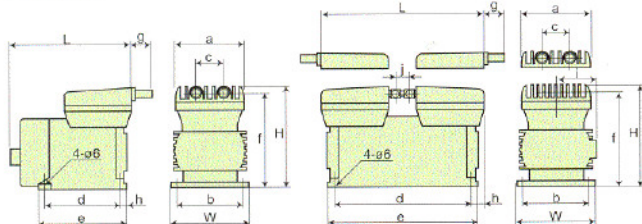
APN-215



Model	W	H	L	a	b	c	d	e	f	g
APN-215N	147	100	50	74	91	36	130	21	-	-
APN-215C	96	140	195	90	39	74	91	36	130	21
APN-215M	151	100	50	-	-	-	-	-	-	-

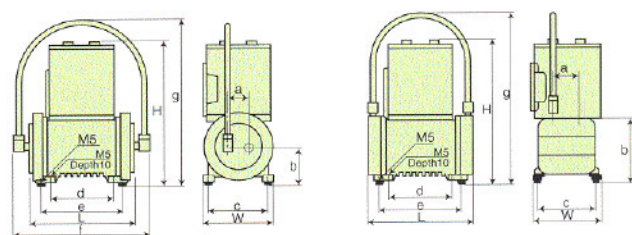
Model	W	H	L	a	b	c	d	e	f	g
APN-P215N	147	100	50	74	91	36	130	21	-	-
APN-P215C	96	140	282	110	39	78	90	84	130	21
APN-P-S215M	151	100	50	-	-	-	-	-	-	-

APN-240



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

APN-450



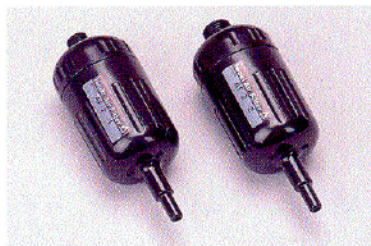
Model	W	H	L	a	b	c	d	e	f	g
APN-450NS	-	211	-	-	241	-	-	-	-	-
APN-P450NS	141	304	195	42	83	120	130	170	292	342
APN-S450NS	-	-	-	-	-	-	-	-	-	-

Model	W	H	L	a	b	c	d	e	f	g
APN-450NA	-	209	-	-	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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Finland :	IWAKI Suomi Oy	TEL : (358)9 2742714	FAX : 9 2742715
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Spain :	IWAKI Iberica Pumps, S.A.	TEL : (34)943 830030	FAX : 943 626799
Sweden :	IWAKI Sverige AB	TEL : (46)8 511 72900	FAX : 8 511 72922
Switzerland :	IWAKI (Schweiz) AG	TEL : (41)26 674 93 00	FAX : 26 674 93 02
U.K. :	IWAKI PUMPS (UK) LTD.	TEL : (44)1743 231363	FAX : 1743 366507
U.S.A. :	IWAKI WALCHEM Corporation	TEL : (1)508 429 1440	FAX : 508 429 1386

ASIA / OCEANIA

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China :	IWAKI Pumps (Shanghai) Co., Ltd.	TEL : (86)21 6272 7502	FAX : 21 6272 6929
China :	IWAKI Pumps Co., Ltd. (Beijing office)	TEL : (86)10 6442 7713	FAX : 10 6442 7712
China :	GFTZ IWAKI Engineering & Trading Co., Ltd.	TEL : (86)20 8435 0803	FAX : 20 8435 9181
Hong Kong :	IWAKI Pumps Co., Ltd.	TEL : (852)2607 1168	FAX : 2607 1000
Indonesia :	IWAKI Singapore (Indonesia Branch)	TEL : (62)21 6906606	FAX : 21 6906612
Korea :	IWAKI Korea Co.,Ltd.	TEL : (82)2 3474 0523	FAX : 2 3474 0221
Malaysia :	IWAKim Sdn. Bhd.	TEL : (60)3 7803 8807	FAX : 3 7803 4800
Philippines :	IWAKI Chemical Pumps Philippines, Inc.	TEL : (63)2 888 0245	FAX : 2 843 3096
Singapore :	IWAKI Singapore Pte Ltd.	TEL : (65)6316 2028	FAX : 6316 3221
Taiwan :	IWAKI Pumps Taiwan Co., Ltd.	TEL : (886)2 8227 6900	FAX : 2 8227 6818
Thailand :	IWAKI (Thailand) Co.,Ltd.	TEL : (66)2 322 2471	FAX : 2 322 2477

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.