NARA E&C INC.
www.naracontrols.com
503-1, Hanshin IT Tower-II, 60-18
Gasan-dong, Kuemcheon-ku,
Seoul, Korea 153-801
TEL:+82 2 2619 0277, FAX:+82 2 2619 0278
E-mail : naracontrols@naracontrols.com

NARA CONTROLS

PRODUCT
- NARA WATER PURIFIER
- AIR COOLING UNIT(for Cubicle & Caravan)
- VACUUM PUMP

COMPONENTS
- ACCUMULATOR
- RECEIVER TANK
- OIL SEPERATOR
- VIBRATION ABSORBER
- FLEXIBLE CAPILLARY TUBE
- BALL VALVE
- SIGHT GLASS
- CHECK VALVE
- SERVICE VALVE
- FILTER DRIER
- DIGITAL THERMO CONTROLLER
- PRESSURE SWITCH
- BRAZED HEAT EXCHANGER

NARA E&C INC.

NARA E&C INC.

NARA offers
you all instruments that are used in
REFRIGERATION, AIR CONDITIONING,
and HEATING UNITS, etc.
In the name of "NARA", we guarantee
you the best quality, reliability, accuracy
and the quickest delivery.
So you can SAVE YOUR MONEY.
You just remember a name "NARA".

























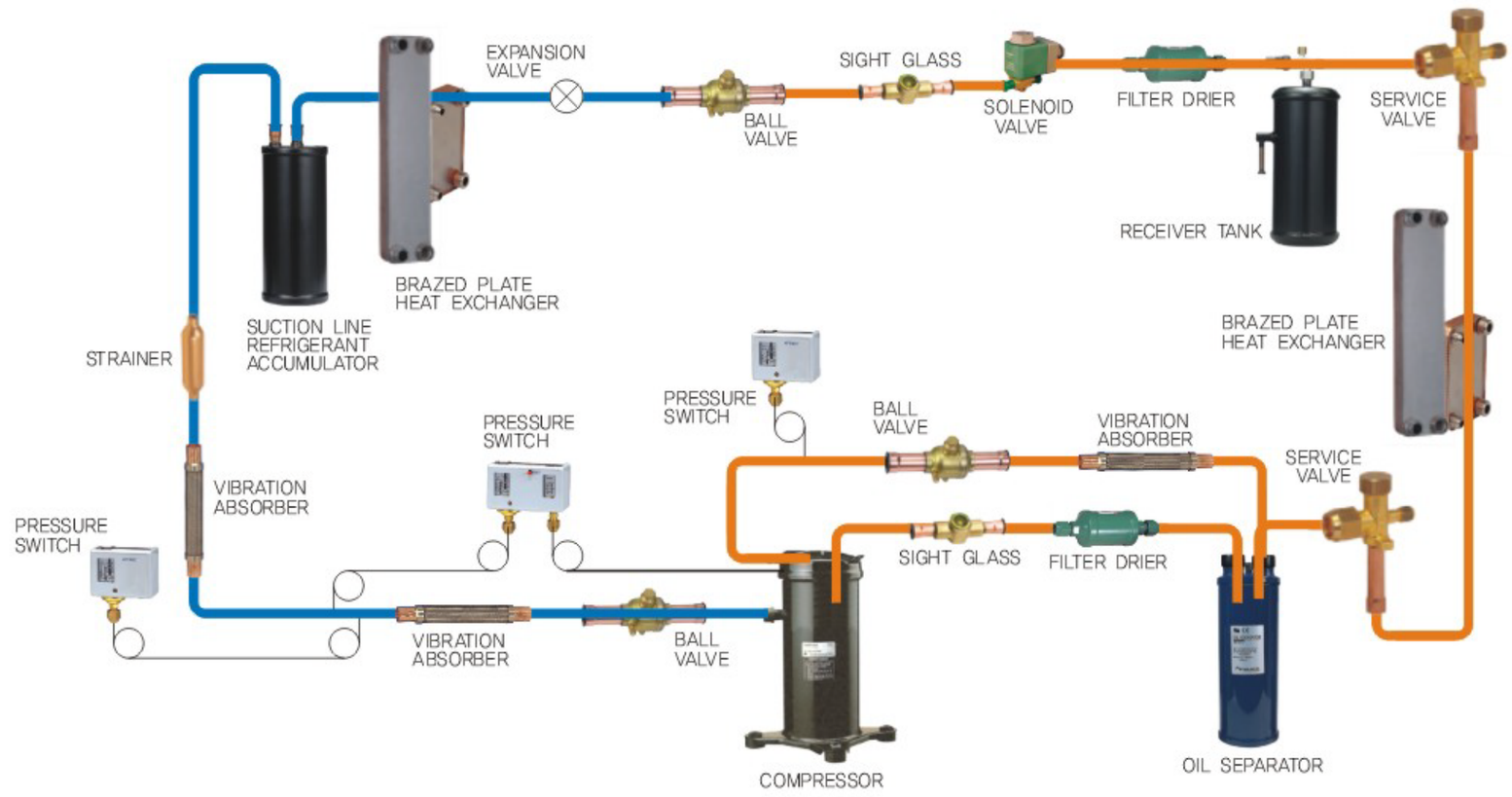








REFRIGERATION EQUIPMENTS AND HVAC ENGINEERING





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VACUUM PUMP

CE

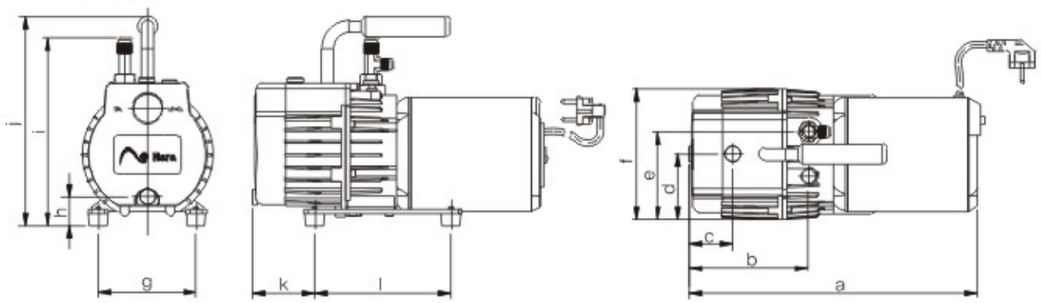
● 2 STAGE VACUUM PUMPS



Specifications

SPEC. \ MODEL		MOT-085	MOT-140
PUMPING SPEED(ℓ /min)	50Hz	70	116
	60Hz	85	140
ULTIMATE PRESSURE(Torr)	GB Closed	$1x10^{-3}$	
	GB Open	$1x10^{-2}$	
FULL LOAD POWER(kW)		0.42	0.55
APPROX. WEIGHT(kgs)		15	16

Dimensions

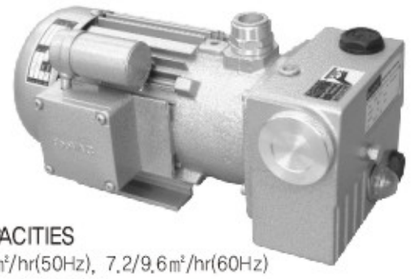


Specifications

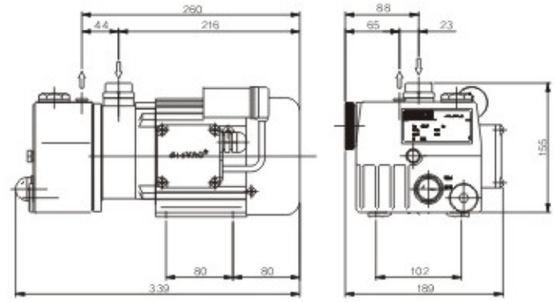
MODEL	a	b	c	d	e	f	g	h	i	j	k	l
MOT – 085	360	148	53	81	110	163	122	35	234	261	78	170
MOT – 140	360	148	53	81	110	163	122	35	234	261	78	170

● ROTARY VANE VACUUM PUMPS

-Single stage model: MVO-006



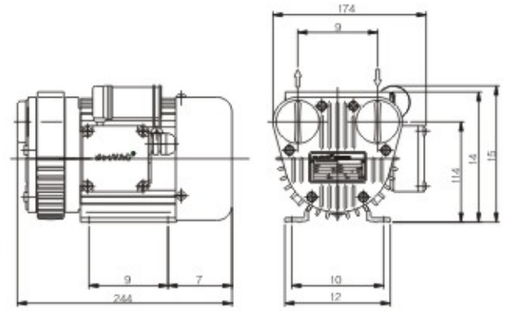
■ CAPACITIES
6/8㎥/hr(50Hz), 7.2/9.6㎥/hr(60Hz)
■ MAX. VACUUM
0.5/20mbar



-Model for Money Counting Machine: SML-140



■ CAPACITIES
6.8㎥/hr(50Hz), 8.4㎥/hr(60Hz)
■ MAX. VACUUM
660mmHg

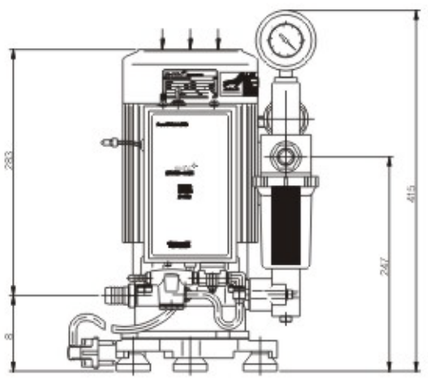


● LIQUID RING VACUUM PUMPS

-Model for Dental Clinic: DEN-400



■ CAPACITIES
20/20㎥/hr(50Hz),
24/48㎥/hr(60Hz)
■ MAX. VACUUM
630mmHg



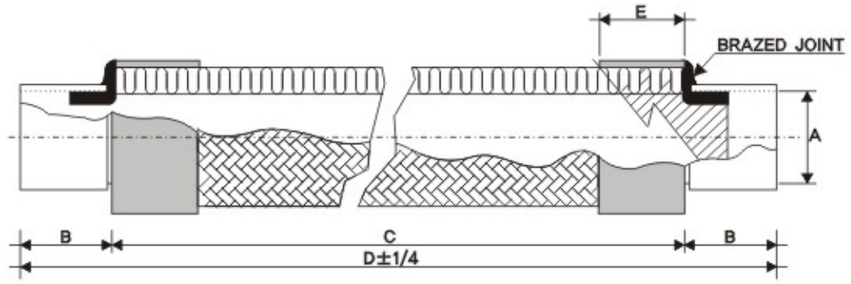
VIBRATION ABSORBER



NARA VIBRATION ABSORBERS are designed for installation in the suction and discharge lines of air conditioning and refrigeration systems to dampen the transmission of compressor-induced vibration through system piping.
NARA VIBRATION ABSORBERS are constructed by deep pitch corrugated tubing for increased flexibility and vibration absorption, covered by high tensile wire braid for superior strength. Tubing and braid are reinforced by ferrules at each end, and connected to female copper tube ends by high temperature braze alloys.
Each NARA VIBRATION ABSORBER has pressure test and careful vacuum test, using a highly sensitive helium mass spectrometer, or leak detection device.

Features, Advantages & Benefits

- Hose and copper tube are braze welded
- Cleaned and dehydrated for refrigeration service
- Each unit pressure and vacuum tested, cleaned, dehydrated and sealed in plastic film
- Complete physical and chemical analysis of all basic components
- Size to fit 3/8" through 2 1/8" O.D. has a corrugated stainless core with high tensile stainless braid covering and copper tube ends
- Components checked and inspected at various phases of assembly
- Ends accurately sized
- Final inspection



Specifications

MODEL NO.	Actual OD of Copper tubing (inch)	DIMENSIONS					Max Working Pressure (psiG)	Burst Pressure (psiG)
		A (I.D)	B (±1/8)	C (±1/8)	D (±1/4)	E (±1/16)		
NF-1	3/8	3/8	13/16	6-15/16	8-9/16	1/2	500	2500
NF-2	1/2	1/2	7/8	7 1/4	9	1/2	500	2500
NF-3	5/8	5/8	15/16	8	9 7/8	11/16	500	2500
NF-4	3/4	3/4	1 1/4	8-1/16	10-9/16	11/16	500	2500
NF-5	7/8	7/8	1-7/16	9 1/8	12	13/16	500	2500
NF-6	1 1/8	1 1/8	1-13/16	9-7/16	13-1/16	13/16	500	2500
NF-7	1 3/8	1 3/8	2	11 1/2	15-9/16	7/8	500	2500
NF-8	1 5/8	1 5/8	2 1/4	12 3/8	16 7/8	15/16	500	2500
NF-9	2 1/8	2 1/8	2 3/4	15-3/16	20 5/8	15/16	390	1950
NF-10	2 5/8	2 5/8	3 1/8	18-1/16	24-5/16	1 1/4	340	1700
NF-11	3 1/8	3 1/8	3-7/16	20	26-15/16	1 1/2	300	1500
NF-12	3 5/8	3 5/8	4 1/8	24	32-3/16	1-9/16	175	525
NF-13	4 1/8	4 1/8	4-7/16	24	32-15/16	1-9/16	175	525

MODEL NO.	Actual OD of Copper tubing (mm)	DIMENSIONS						Max Working Pressure (psiG)	Burst Pressure (psiG)
		A(mm)		B(±1/8) (inch)	C(±1/8) (inch)	D(±1/4) (inch)	E(±1/16) (inch)		
		I.D	Tolerance						
NF-1M	10	9.62	±0.03	13/16	6-15/16	8-9/16	1/2	500	2500
NF-2M	12	12.81	±0.03	7/8	7 1/4	9	1/2	500	2500
NF-3M	16	16	±0.03	15/16	8	9 7/8	11/16	500	2500
NF-4M	19	19.19	±0.03	1 1/4	8-1/16	10-9/16	11/16	500	2500
NF-5M	22	22.36	±0.03	1-7/16	9 1/8	12	13/16	500	2500
NF-6M	28	28.75	±0.04	1-13/16	9-7/16	13-1/16	13/16	500	2500
NF-7M	35	35.11	±0.04	2	11 1/2	15-9/16	7/8	500	2500
NF-8M	41	41.5	±0.05	2 1/4	12 3/8	16 7/8	15/16	500	2500
NF-9M	54	54.22	±0.05	2 3/4	15-3/16	20 5/8	15/16	390	1950
NF-10M	66	66.96	±0.05	3 1/8	18-1/16	24-5/16	1 1/4	340	1700
NF-11M	79	79.66	±0.05	3-7/16	20	26-15/16	1 1/2	300	1500
NF-12M	92	92.12	±0.05	4 1/8	24	32-3/16	1-9/16	175	525
NF-13M	105	105.12	±0.05	4-7/16	24	32-15/16	1-9/16	175	525

FLEXIBLE CONNECTOR FOR VEHICLES

– GAS APPLICATION CONNECTORS –

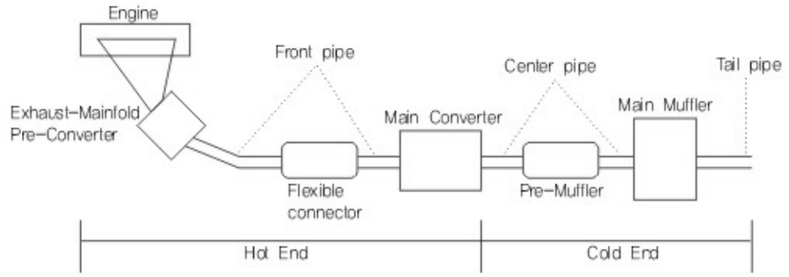


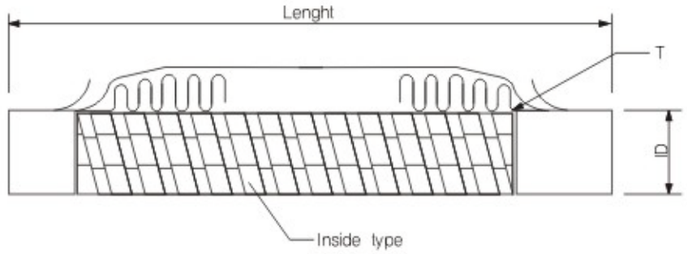
Exhaust Connector decrease the noise and vibration from engine in the exhaust system and absorb thermal expansion of exhaust pipe high temperature exhaust gas.
It compensates the misalignment of exhaust pipe, protects catalyic converter, seals the line to protect catalytic converter and prevent air pollution caused by exhaust gas.

Features

- Durability and NVH improvement of Exhaust pipe system
- Decoupling of large exhaust system movements under driving on road and engine vibration & shock energe between engine and exhaust pipe system.
- Environment protection by gas tight connection
- Absorption for heat expansion and contraction of exhaust pipe and crossover pipe
- Compensation of misalignment for exhaust pipe system under installation process







Specifications

MODEL NO.	ID(mm)	T(mm)	STANDARD PLY	LENGHT (mm)	INNER	REMARKS
NVF-43	43.2A	0.2~0.4	2	80~280	In/Braid OR Inter-Lock	For Passenger Car
NVF-45	44.9A	0.2~0.4	2	80~300	In/Braid OR Inter-Lock	For Passenger Car
NVF-49	49.5A	0.2~0.5	2	80~320	In/Braid OR Inter-Lock	For Passenger Car
NVF-52	52.4A	0.2~0.5	2	100~350	In/Braid OR Inter-Lock	For Passenger Car
NVF-54	54.5A	0.2~0.5	2	100~400	In/Braid OR Inter-Lock	For Passenger Car
NVF-60	60.5A	0.2~0.5	2	150~400	In/Braid OR Inter-Lock	For Passenger Car
NVF-70	70A	0.25~0.5	2	200~450	Bellows+Pipe Welding available	For commercial
NVF-90	90A	0.25~0.5	2	200~450	Bellows+Pipe Welding available	For commercial
NVF-101	101A	0.25~0.5	2	200~450	Bellows+Pipe Welding available	For commercial
NVF-103	103A	0.25~0.5	2	200~450	Bellows+Pipe Welding available	For commercial

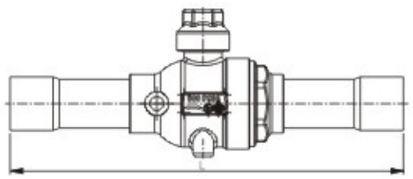
REFRIGERATION BALL VALVE

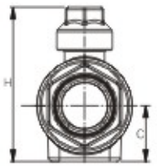


The valve are used in liquid, suction and hot gas lines in refrigeration, freezing and air conditioning system

Features, Advantages & Benefits

- Maximum working pressure : 500psig(35kg/㎠)
- Temperature range : +300℉(149℃) to −40℉(−40℃)
- Bi-directional flow
- Forged brass body/brass cap
- Extended copper connections for easy brazing
- O-ring installed after body is hermetically sealed
- Designed as full internal ports
- Compatible with new refrigerants and lubricants excluding R-123
- Integrated access port available on all sizes





Specifications

MODEL NUMBER		CONNECTION SIZE(inch)	PORT SIZE (inch)	DIMENSION(mm)		
WITHOUT ACCESS VALVE	WITH ACCESS VALVE			L	H	C
RBV6	RBV6C	1/4"	1/2"	140	61	21
RBV10	RBV10C	3/8"	1/2"	140	61	21
RBV12	RBV12C	1/2"	1/2"	160	61	21
RBV16	RBV16C	5/8"	1/2"	160	61	21
RBV18	RBV18C	3/4"	3/4"	186	75	26
RBV22	RBV22C	7/8"	3/4"	186	75	26
RBV28	RBV28C	1 1/8"	1"	230	88	33
RBV35	RBV35C	1 3/8"	1 1/4"	245	103	39
RBV42	RBV42C	1 5/8"	1 1/2"	278	114	45
RBV54	RBV54C	2 1/8"	2"	298	145	60
RBV64	RBV64C	2 5/8"	2"	298	145	60
RBV76	RBV76C	3 1/8"	2 1/2"	360	177	74

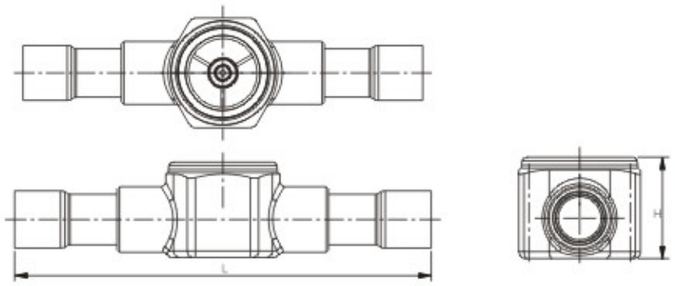
SIGHT GLASS WITH MOISTURE INDICATOR



Sight Glasses are used to indicate the condition of the refrigerant, the moisture content in the refrigerant and the flow in the oil return line

Features, Advantages & Benefits

- Maximum working pressure : 680psig(48kg/㎠)
- Maximum temperature rating : 450℉(232℃)
- Forged brass construction with clear fused glass window indicating element protected by filter screen
- Designed as fully hermetic
- 5% of moisture sensitivity
- Extended copper connections for easy brazing
- Forged brass body
- Reliable and accurate color calibration at low ppm and high temperature



Specifications

MODEL NUMBER	CONNECTION SIZE(inch)	CONNECTION TYPE	DIMENSION(mm)	
			L	H
SM6	1/4"	SWEAT×SWEAT STANDARD	125	24
SM10	3/8"		125	24
SM12	1/2"		132	30
SM16	5/8"		132	30
SM18	3/4"		163	38
SM22	7/8"		163	38
SM28	1 1/8"		170	44
SM6MM	1/4"	MALE FLARE×MALE FLARE		24
SM10MM	3/8"			24
SM12MM	1/2"			30
SM16MM	5/8"			30
SM18MM	3/4"			38

SUCTION REFRIGERANT ACCUMULATOR

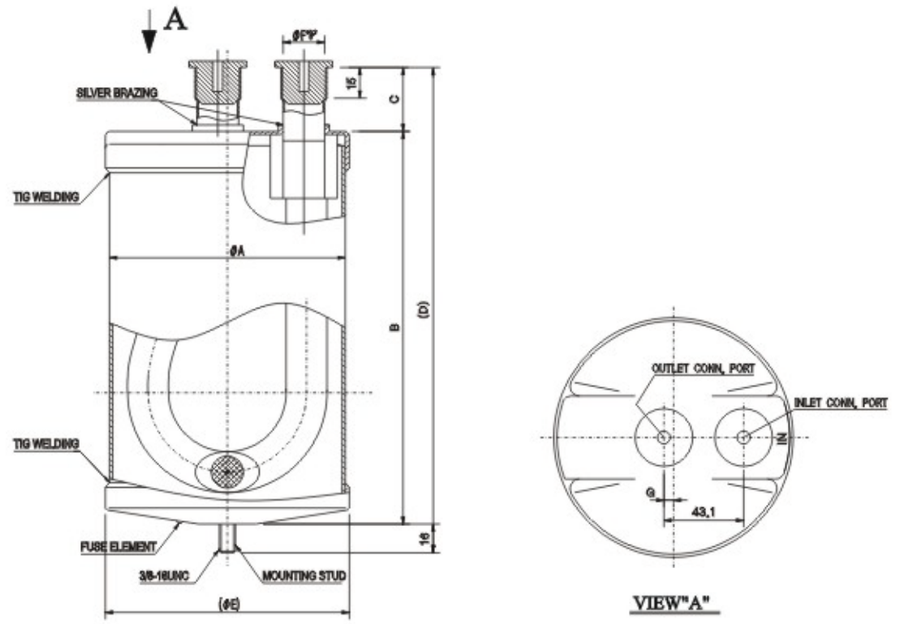


- Located to the compressor as close as possible.
- In systems using reverse cycle, the accumulator must be installed between the reversing valve and the compressor.
- Proper inlet(from evaporator) and outlet(to compressor) must be observed.
- The accumulator must be installed upright.
- Proper sizing of an accumulator may not necessarily result in the accumulator connections matching the suction line site. This new technology must replace the dangerous and outmoded practice of matching the accumulator connections to the suction line site.
  The accumulator should not be installed in a by-pass line or in suction lines that experience other than total refrigerant flow.

Features, Advantages & Benefits

- Prevents compressor damage due to slugging of refrigerant and oil.
- Positive oil return at all rated conditions.
- Designed for operation as low as 40℉ evaporator temperature.
- Lowest pressure drop.
- Acts as a suction muffler.
- Fusible relief device available on larger models.
- Suction gas temperature as low as +10℉ at the accumulator.

Compressors are designed to compress vapors, not liquids, many systems, especially low temperature, are subject to the return of excessive quantity of liquid refrigerant, which dilutes the oil, washes out bearings, and in some cases complete loss of oil causes in the crank case. This results in broken valve reeds, pistons, rods, crankshafts, etc. The purpose of the accumulator is to act as a reservoir to temporarily hold the excess oil-refrigerant mixture and return it at rate in which the compressor can safely handle.



Specifications

MODEL NO.	ØA	B	C	(D)	(ØE)	ØF	G	CONN. PORT (inch)	CAPACITY	REMARK
ACC050-25C-0430	127	255	33	288	(132)	Ø19.2	5	3/4	2500cc	PA5083-11-6C
ACC050-40C-0870	127	351.5	33	384.5	(132)	Ø22.4	5	7/8	4000cc	PA5083-15-7C
ACC060-47C-1810	152.4	331	50	381	(157)	Ø28.8	5	1 1/8	4700cc	PA5083-15-9C
ACC035-10C-0850	89.1	219	33	252	(94)	Ø16.0	21.55	5/8	1000cc	VA32-5S
ACC035-10C-0430	89.1	219	33	252	(94)	Ø19.2	21.55	3/4	1000cc	VA32-6S
ACC050-20C-0870	127	196	33	229	(132)	Ø22.4	5	7/8	2000cc	VA54-7SRD
ACC050-34C-0870	127	308	33	341	(132)	Ø22.4	5	7/8	3400cc	VA57-7SRD
ACC060-34C-1810	152.4	220	50	270	(157)	Ø28.8	5	1 1/8	3400cc	VA57-9SRD
ACC050-38C-1810	127	340	36.5	376.5	(132)	Ø28.8	35	1 1/8	3800cc	
ACC060-60C-1830	152.4	393	50	443	(132)	Ø35.2	5	1 3/8	6000cc	

RECEIVER TANK

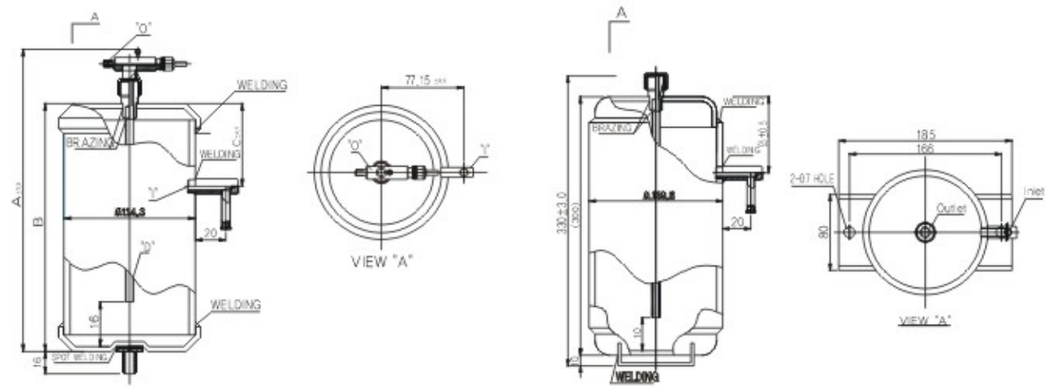


NARA manufactures the complete line of both Horizontal and Vertical liquid refrigerant receivers. Receiver storage capacities are based on the liquid occupying no more than 90% of the internal volume when the temperature of the refrigerant is 90℉(32℃) per ASHRAE standard 15~78.

Features, Advantages & Benefits

- Hydrogen brazed for cleanliness
- Holds excess refrigerant when head pressure gets too low
- Pressure tested for reliability

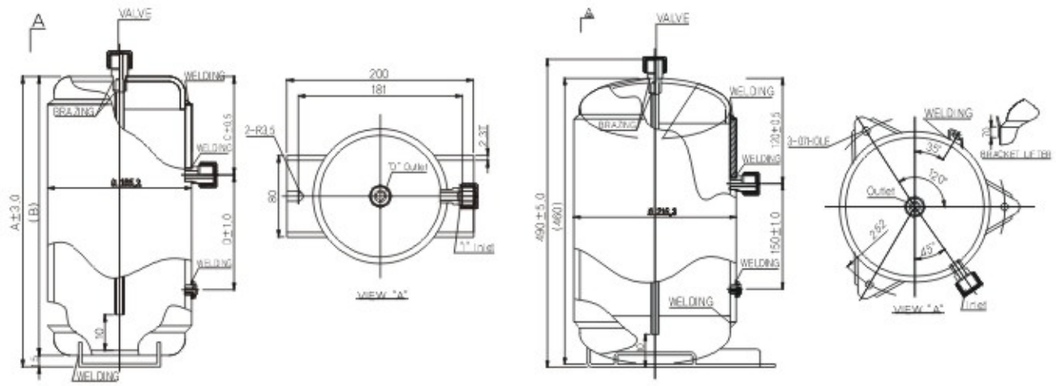
VERTICAL TYPE



Specifications

MODEL NO.	NOM(HP)	DIMENSIONS(mm)						CAPACITY
		A	B	C	D	I	O	
URT-00500	1/2	200	130	45	1/4"	1/4"	1/4"	870cc
URT-00750	3/4	295	225	70	3/8"	3/8"	3/8"	1750cc
URT-01000	1.0	340	270	85	3/8"	3/8"	3/8"	2200cc
URT-02000	2.0	388	350	105	3/8"	3/8"	3/8"	2600cc
URT-03000	3.0	330	300	95	3/8"	3/8"	3/8"	3600cc

VERTICAL TYPE



Specifications

MODEL NO.	NOM(HP)	DIMENSIONS(mm)						CAPACITY
		A	B	C	D	I	O	
URT-05000	5.0	425	390	120	1/2"	1/2"	1/2"	6800cc
URT-07500	7.5	525	485	160	5/8"	5/8"	5/8"	8900cc
URT-10000	10.0	490	460	120	7/8"	7/8"	7/8"	14000cc

OIL SEPARATOR

Transportation Refrigerant unit NTO-04 for use with R134a & R404A

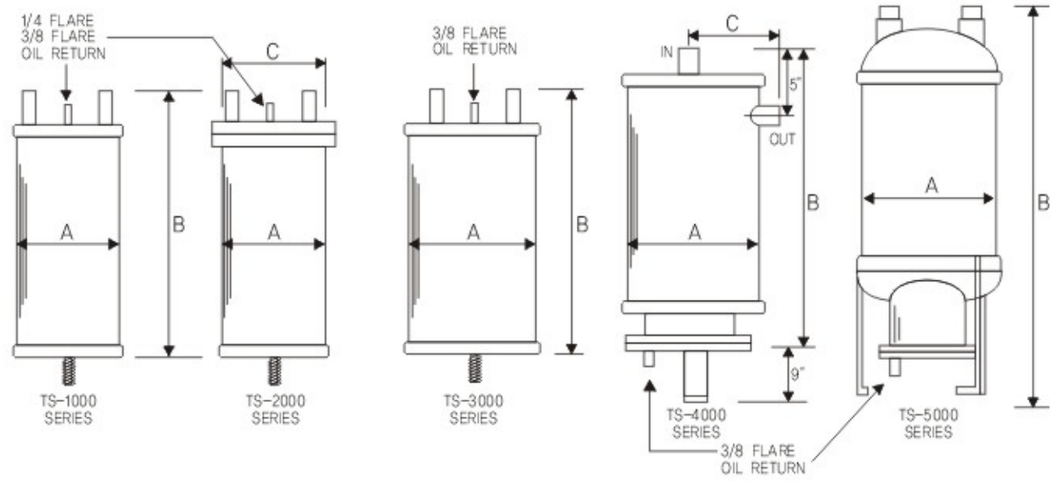




NARA OIL SEPARATORS are impingement screen type oil separators. They work by having the compressed mass flow enter into a larger separator chamber which lowers the velocity and then the atomized oil droplets collect on the impingements screen surface. As the oil droplets agglomerate into larger particles they fall into the bottom of the separator oil reservoir.
A complete replacement parts list is available for the **NARA SERIES** at your local HVAC Wholesaler.

Features, Advantages & Benefits

- NARA Series are traditional impingement type oil separator.
- Accessible to allow field repair or replacement of the impingement screen
- 500 psiG maximum working pressure
- Many additional models available upon request



Specifications

MODEL NO.	SIZE CONN. (inch)	DIMENSIONS			CAPACITY IN TONS OF REFRIGERATION AT EVAPORATOR TEMPERATURE						REMARKS	
		A	B	C	R-12(R-134a)		R-22		R-502		AC&R	TEMPRITE
					-40°F	+40°F	-40°F	+40°F	-40°F	+40°F		
NS-1002	1/4 ODS	4	8-1/4		1/2	3/4	3/4	1	3/4	1	S-5580	–
NS-1003	3/8 ODS		8-1/4		3/4	1	1	1-1/2	1	1-1/2	S-5581	–
NS-1004	1/2 ODS		10-1/4		1	1-1/2	1-1/2	2	1-1/2	2	S-5582	601
NS-1005	5/8 ODS		14-1/4		3	4	4-1/2	5-1/2	4-3/4	5-3/4	S-5585	602
NS-1007	7/8 ODS		17-3/4		4-1/2	5-1/2	7	8	7-1/2	8-1/2	S-5587	603
NS-1009	1-1/8 ODS		21		6	7-1/2	9	10-1/2	9-1/2	11-1/2	S-5588	604
NS-1011	1-3/8 ODS		21-1/4		7-1/2	10	11-1/2	13-1/2	12	14-1/2	S-5590	605
NS-2004	1/2 SAE	4	10-1/4	5-1/2	1	1-1/2	1-1/2	2	1-1/2	2	S-5882	501
NS-2005	5/8 SAE		14-1/4		3	4	4-1/2	5-1/2	4-3/4	5-3/4	S-5885	502
NS-2007	7/8 SAE		17-3/4		4-1/2	5-1/2	7	8	7-1/2	8-1/2	S-5887	503
NS-2009	1-1/8 SAE		21		6	7-1/2	9	10-1/2	9-1/2	11-1/2	S-5888	504
NS-2011	1-3/8 SAE		21-1/4		7-1/2	10	11-1/2	13-1/2	12	14-1/2	S-5890	505
NS-3007	7/8 ODS	6	11-1/8		6	8	9	10	9	10	S-5687	–
NS-3009	1-1/8 ODS		15-3/8		8	10	11	12	12	12	S-5688	–
NS-3011	1-3/8 ODS		15-5/8		9	12	13	14	15	15	S-5690	–
NS-3013	1-5/8 ODS		18-5/8		11	14	16	16	20	20	S-5692	506
NS-3017	2-1/8 ODS		19-1/8		17	22	25	30	30	30	S-5694	507
NS-5013	1-5/8 ODS	8	21		12	15	20	24	22	25	S-1901	–
NS-5017	2-1/8 ODS		21		20	25	30	35	35	40	S-1902	–
NS-5021	2-5/8 ODS	10	21-1/2		30	40	50	65	60	70	S-1903	–
NS-5025	3-1/8 ODS	12	25-3/4		50	60	75	90	80	100	S-1904	–

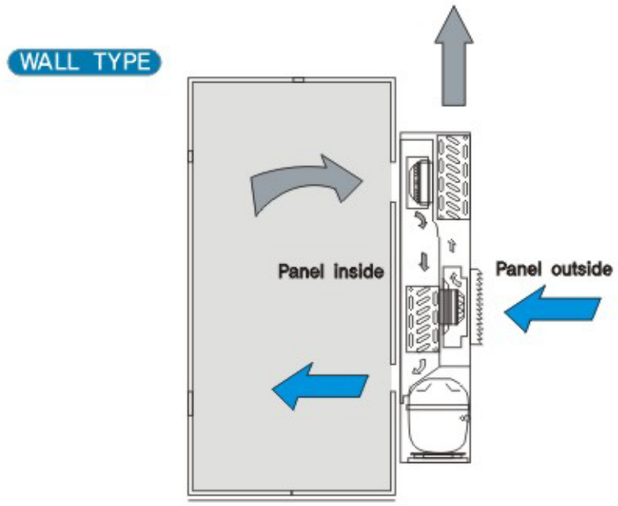
AIR COOLING UNIT
for Cubicle & Caravan

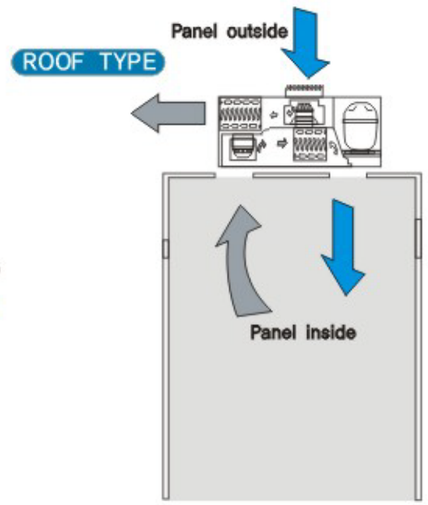


The ADVANCED PANEL COOLERS guarantee Perfect TROUBLE-FREE in every ELECTRONIC DEVICES & EQUIPMENTS for costless of maintenance and long life.
The MOST ATTRACTION is applicable for CARAVAN AIR-CONDITIONING on leisure journey with family.

Features, Advantages & Benefits

- No need to invite Trouble-shooter
- Moisture & Water free in system
- Perfect protection for dust-free
- Slim & compact
- High performance





WALL TYPE

MODEL	AMPS-500A	AMPS-1000A	AMPS-1500A
Dimension(W×D×H)	355×180×470	400×190×900	400×230×1050
Cooling Capacity	450Kcal/h (500W/h)	1000Kcal/h (1160W/h)	1450Kcal/h (1700W/h)
Power Consumption	600W (at Heater on)	980W (at Heater on)	1350W (at Heater on)
Power Source	φ1, 220V, 60Hz/50Hz	φ1, 220V, 60Hz/50Hz	φ1, 220V, 60Hz/50Hz
Starting Current	10A	15A	20A
Running Current	3.0A	4.4A	6.2A
Refrigerant	R134a	R134a	R134a
Weight	About 25kg	About 40kg	About 47kg
Noise	58db	58db	60db
Temp. Range	20℃~50℃ / 40%RH	20℃~50℃ / 40%RH	20℃~50℃ / 40%RH

ROOF TYPE

MODEL	AMPR-500A	AMPR-1000A	AMPR-1500A	AMPR-3000A
Dimension(W×D×H)	358×450×206	435×510×260	600×430×370	600×480×420
Cooling Capacity	450Kcal/h (500W/h)	1000Kcal/h (1160W/h)	1450Kcal/h (1700W/h)	3000Kcal/h (3500W/h)
Power Consumption	600W (at Heater on)	980W (at Heater on)	1350W (at Heater on)	2000W (at Heater on)
Power Source	φ1, 220V, 60Hz/50Hz	φ1, 220V, 60Hz/50Hz	φ1, 220V, 60Hz/50Hz	φ1, 220V, 60Hz/50Hz
Starting Current	10A	15A	20A	20A
Running Current	3.0A	4.4A	6.2A	7.0A
Refrigerant	R134a	R134a	R134a(R22)	R134a(R22)
Weight	About 25kg	About 35kg	About 40kg	About 45kg
Noise	58db	58db	60db	60db
Temp. Range	20℃~50℃ / 40%RH	20℃~50℃ / 40%RH	20℃~50℃ / 40%RH	20℃~50℃ / 40%RH

*Specifications are subject to be changeable without notice.

FLEXIBLE CAPILLARY TUBE /FITTING/TOOL



Capillary Hose/Specification

MODEL NO.	ID	OD	Working pressure	Min. Bend Radius	Color
	mm	mm	mmMPA(kgf/cm²)	mm	
RH-01	2.5	5.5	19.6(200)	15	Gray
RH-02	3.6	7.0	9.8(100)	20	
RH-04	6.3	10.4	9.8(100)	30	



Pressing machine



Pressing tool



Plier



Hose cutter

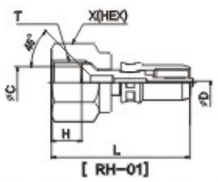
- The advent of new refrigerants and environmental issues have lead to re-thinking refrigerant systems leaks.
- One of the major concerns is the reduction of refrigerant loss into the atmosphere due to system leaks.
- Service and maintenance people are well aware of how often systems can fail due to break of cooper tubing.
- To overcome this problem there has been an increase in the use of flexible hoses for this application.

Features, Advantages & Benefits

- Suitable for all CFC, HFC & HCFC refrigerants, natural gases and ammonia.
- Lining is made out of convoluted polyamide, specially formulated to suit new refrigerant gasses requirements.
- Reinforced with high tensile polyester braid.
- Working temperature : -40℃ TO +130℃ maximum.
- Working pressure : 100bar
- Minimum bend redius : 10mm

Fittings
(Coupling)





[RH-01]

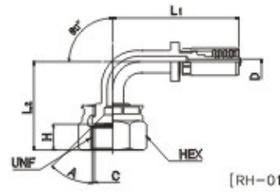


[RH-02/04]

Specifications

MODEL NO.	HOSE	T	B (mm)	C (mm)	D (mm)	H (mm)	L (mm)	X (mm)	Y (mm)	WEIGHT (g)	PUSHER	DIE
RHC-UNF7/16-01	RH-01	7/16-20UNF	-	8	0.9	8	33.5	17	-	30	PRHC-01	SP-RH-01
RHC-UNF7/16-02	RH-02	7/16-20UNF	4	7.5	1.8	9.8	41	17	14	38	PSK7/16-02-S	SP-RH-02
RHC-UNF5/8-02	RH-02	5/8-18UNF	4	13	1.8	9.5	41	22	19	46	PSK5/8-06	SP-RH-02
RHC-UNF7/16-04	RH-04	7/16-20UNF	4	7.5	3.5	9.8	40	17	14	40	PSK7/16-02-S	SP07-04
RHC-UNF5/8-04	RH-04	5/8-18UNF	4	13	3.5	9.5	40	22	19	48	PSK5/8-06	SP07-04

(Elbow)

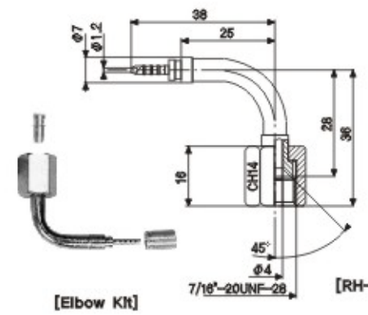


[RH-01/02/04]

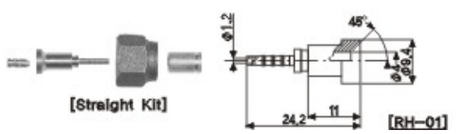
Specifications

MODEL NO.	HOSE	T	C (mm)	D (mm)	H (mm)	L1 (mm)	L2 (mm)	X (HEX)	WEIGHT (g)	PUSHER	DIE
RH90-UNF7/16-01	RH-01	7/16-20UNF	8	1.2	10	39	30	17	33	PRH90-01	SP-RH-01
RH90-UNF7/16-02	RH-02	7/16-20UNF	8	1.8	10	41	30	17	35	PRH90-01	SP-RH-02
RH90-UNF5/8-02	RH-02	5/8-18UNF	13	1.8	9.5	45	32	22	50	PAF-14-04N	SP-RH-02
RH90-UNF7/16-04	RH-04	7/16-20UNF	8	3.5	10	44	32	17	45	PAF-14-04N	SP07-04
RH90-UNF5/8-04	RH-04	5/8-18UNF	13	3.5	9.5	44	32	22	56	PAF-14-04N	SP07-04

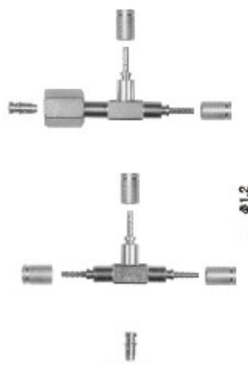
Fitting Kits by Plier



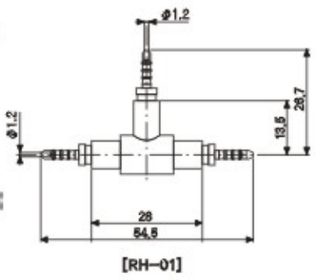
[Elbow Kit] [RH-01]



[Straight Kit] [RH-01]



[Tee Kit]



[RH-01]

VALVES

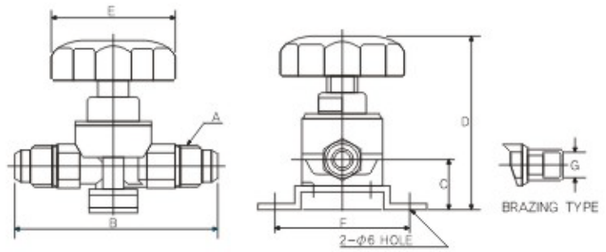


One set of service valve is installed at discharge side of condenser and suction of compressor which are seated in copper tube piping of air conditioner.
The service valve is composed of front seat, back seat and service port and can make it easier to attach pressure gauge, to charge gas for leaking test, to charge cold materials(Freon) and to do air purge.

STOP VALVES



- Suitable for all CFC, HCFC and HFC refrigerants and their oils.
- Temperature range : −40~120℃
- Max. allowable pressure : 36kgf/㎠G
- Withstanding test pressure :54kgf/㎠G

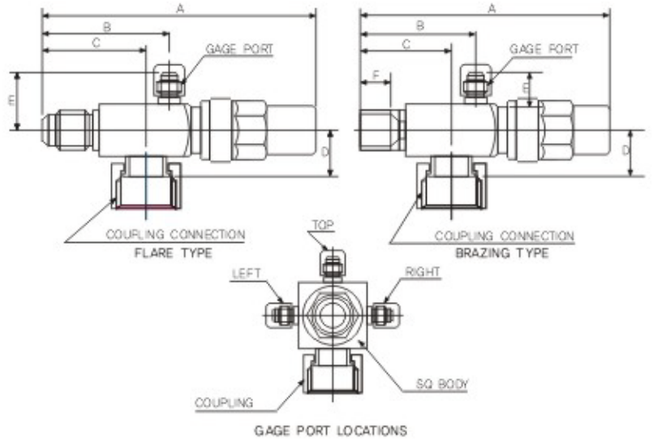


Specifications

TYPE	COPPER TUBE (O.D)	A	B	C	D	E	F
JST-008F	1/4" (6.35)	7/16" - 20UNF	76	20	72.8	Φ55	56
JST-008B		Φ6.5	76	20	72.8	Φ55	56
JST-010F	3/8" (9.52)	5/8" - 18UNF	82	20	72.8	Φ55	56
JST-010B		Φ9.7	82	20	72.8	Φ55	56
JST-015F	1/2" (12.7)	3/4" - 16UNF	96	20	72.8	Φ55	56
JST-015B		Φ12.9	96	20	74.5	Φ55	56
JST-019F	5/8" (15.88)	7/8" - 14UNF	124	25	85	Φ70	70
JST-019B		Φ16.1	124	25	85	Φ70	70

ROTALOCK VALVES





GAGE PORT LOCATIONS

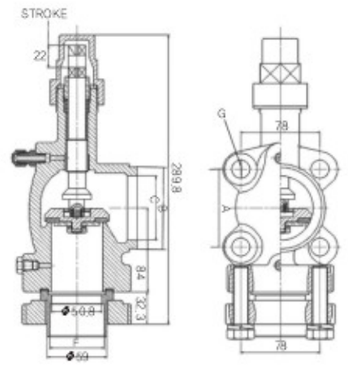
Specifications

(F)TYPE	COPPER TUBE (O.D) (IN)	GAGE PORT	BODY SIZE	COUPLING SIZE (IN)	A	B	C	D	E	GAGE PORT LOCATION
JRV-008F	1/4"	7/16-20UNF	19 HEX	3/4"-16	94	38.9	30.2	19.8	25.4	TOP
JRV-010F	3/8"	7/16-20UNF	19 HEX	3/4"-16	94	38.9	30.2	19.8	25.4	TOP
JRV-015F	1/2"	7/16-20UNF	22 SQ	1" -14	111	43.7	33.3	19.1	27.0	TOP
JRV-019F	5/8"	7/16-20UNF	22 SQ	1" -14	141	50.0	39.7	19.1	27.0	TOP

(B)TYPE	COPPER TUBE (O.D) (IN)	GAGE PORT	BODY SIZE	COUPLING SIZE (IN)	A	B	C	D	E	F	GAGE PORT LOCATION
JRV-008B	1/4"	7/16-20UNF	19 HEX	3/4"-16	91	35.7	27.0	19.8	25.4	7.9	TOP
JRV-010B	3/8"	7/16-20UNF	19 HEX	3/4"-16	91	34.9	26.2	19.8	25.4	7.9	TOP
JRV-015B	1/2"	7/16-20UNF	22 SQ	1" -14	102	41.3	31.0	19.1	27.0	9.5	TOP
JRV-019B	5/8"	7/16-20UNF	22 SQ	1" -14	109	47.6	37.3	19.1	27.0	12.7	TOP
JRV-024B	7/8"	7/16-20UNF	29 SQ	1 1/4"-12	137	59.5	42.9	24.6	30.2	15.9	RIGHT
JRV-030B	1 1/8"	7/16-20UNF	29 SQ	1 1/4"-12	143	65.9	49.2	24.6	30.2	15.9	RIGHT
JRV-032B	1 1/8"	7/16-20UNF	35 SQ	1 3/4"-12	176	77.8	56.4	30.2	33.3	25.4	RIGHT
JRV-035B	1 1/8"	7/16-20UNF	35 SQ	1 3/4"-12	183	84.1	62.7	30.2	33.3	25.4	RIGHT

SHUT-OFF VALVES





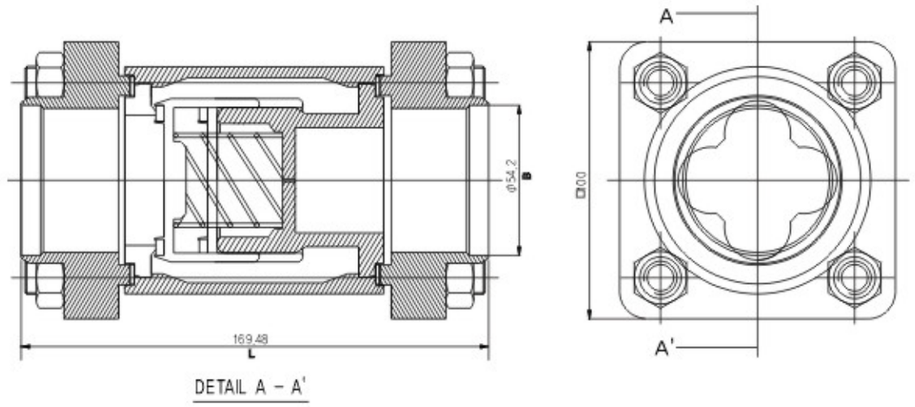
(unit:mm)

MODEL	A	B	C	F	G	FLANGE
SV-2	78	Φ81.8	Φ64.5	Φ54	Φ18	4-hole type

CHECK VALVES

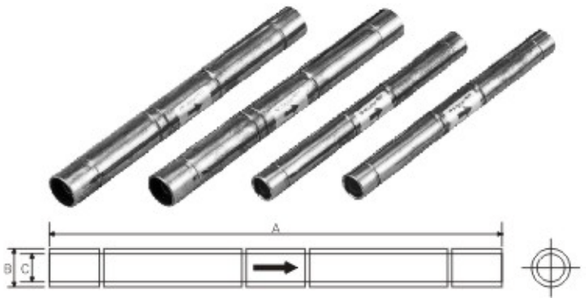


Check valve, DVC 40/50, can be used in liquid, suction and hot gas lines in refrigeration and air conditioning plant with ammonia.
Also it can be used for fluorinated refrigerants.



Specifications

MODEL NO.	FLANGE CONNECTION	MEASUREMENT	A	L	B	WEIGHT
DVC 40/50	1 1/2"~2"	mm	70.4	169.48	ϕ54.2	5.0Kg
		inch	2.77	6.67	ϕ2.13	



Specifications

	A	B	C
3/8"	120	ϕ11.7	ϕ9.8
1/2"	140	ϕ15.0	ϕ13.0

1. Operating Pressure : 30kgf/㎠G
2. Pressure Endurance : 45kgf/㎠G
3. Refrigerant : R22, R134a, R404A

GAS PRESSURE SWITCH

Specifications(gas pressure switch)

MODEL NO.	CONTROL RANGE (mbar)	DEVIATION (mbar)	TYPE	MAX. WORKING PRESSURE
SEPS 2,550V	2,5~50	≤2	SPDT	500mbar
SEPS 30150V	30~150	≤3	SPDT	500mbar
SEPS 100500V	100~500	≤5	SPDT	1bar

※ Control Tolerance : ±15%(the tolerance between scales when pressure increases.)



AIR PRESSURE SWITCH

Specifications(air pressure switch)

MODEL NO.	CONTROL RANGE (mmH_2O)	DEVIATION (mmH_2O)	TYPE
SE72 0430V	4~30	≤4	SPDT
SE72 20100V	20~100	≤8	SPDT
SE72 25500V	50~500	≤15	SPDT
SE72 1001500V	100~1500	≤30	SPDT

※ Control Tolerance : ±15%(the tolerance between scales when pressure increases.)



Product Application

- This switch with changeable type is used in sensing gas pressure.
- This switch attached to a gas burner is applied to sense gas pressure in a pipe arrangement. (gas pressure switch)
- This switch is applied to sense the discharged gas of gas boiler or fan-heater. (air pressure switch)

Product Feature

- This switch is worked by constant pressure.
- This switch can be controlled according to the pressure which a user wants.
- This switch has various ranges to choose.
- This switch can be set fast and easily by dialing without pressure gauge.

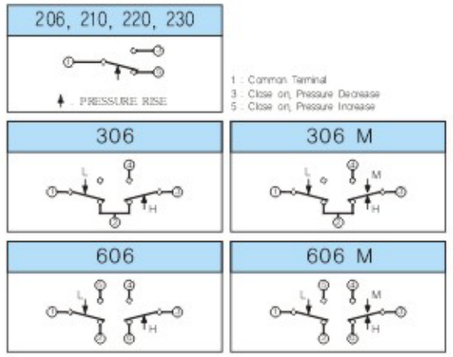
PRESSURE SWITCH



NARA PRESSURE SWITCHS are used as protection against too low suction pressure or too high discharge pressure on compressors in refrigeration and air conditioning plant.
NARA PRESSURE SWITCHS are also used for starting and stopping refrigeration compressors and fans for air-cooled condensers. "Single Pole Double Throw"
NARA PRESSURE SWITCHS are fitted with a single pole double throw(SPDT) changeover switch. The position of the switch is determined by the pressure switch setting and the pressure at the connector.
Two independent SPDT switches are controlled by the high and low pressure sides of the control. The low pressure, automatic reset side provides all of the features available with a single SPDT low pressure control.

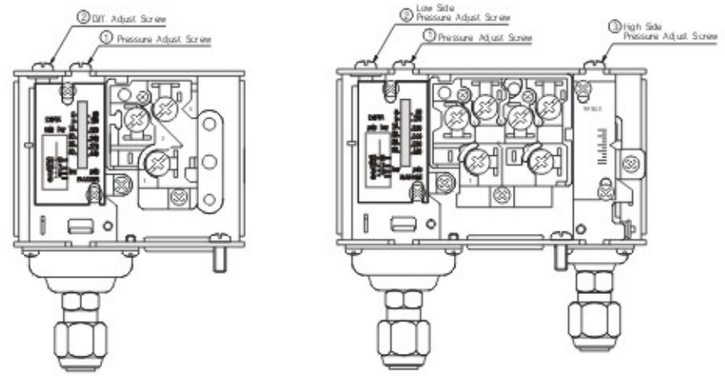
Features, Advantages & Benefits

- SPDT switch to provide open or close on pressure rise for maximum application flexibility.
- Standard accessories include mounting bracket and knob with lock plate.
- Factory set pressure switch designed for use in refrigeration units of quantity production such as room air conditioner(heat pump), packaged air conditioner(heat pump), water chiller etc.
- For use with fluorinated refrigerants as well as with air and water (Allowable Fluid Temp. : -45 to 135℃)
- Type HPS for Universal application.
- Micro-switch ensures reliable switching.
- Mounting bracket supplied as standard
- Various contact functions available
- Several models available in drip-proof enclosure for special application.



Electrical Ratings

Rated Voltage(v) / Rated Amps(a)	AC125V	AC250V
Non-Inductive Current	10A	5A
Inductive Current	8A	4A
Full Load	8.5A	4.5A
Starting	40A	20A
Purpose Protection Degree	IP40	IP40



SINGLE TYPE

Model No.	Range		Differential		Factory Setting		Max. Bellows Pressure(kgf/cm²)	Wt(kg)
	Min	Max	Min	Max	Off(On)	On(Off)		
JC-206	-50cmHg	6	0.6	4	2	3	16.5	0.42
JC-210	1	10	1	3	4	6	16.5	0.42
JC-220	5	20	3	5	15	12	40	0.42
JC-230	5	30	3	10	20	15	40	0.42

DUAL TYPE

Model No.		Range		Differential		Factory Setting		Max. Bellows Pressure(kgf/cm²)	Wt(kg)
		Min	Max	Min	Max	Off(On)	On(Off)		
JC-306	Low Side	-50cmHg	6	0.6	4	2	3	16.5	0.61
	High Side	8	30	Approx. 4 fixed		20	16	40	0.61
JC-306M	Low Side	-50cmHg	6	0.6	4	2	3	16.5	0.61
	High Side	8	30	Manual Reset		20	Manual Reset	40	0.61
JC-606	Low Side	-50cmHg	6	0.6	4	2	3	16.5	0.61
	High Side	8	30	Approx. 4 fixed		20	16	40	0.61
JC-606M	Low Side	-50cmHg	6	0.6	4	2	3	16.5	0.61
	High Side	8	30	Manual Reset		20	Manual Reset	40	0.61

FILTER DRIER

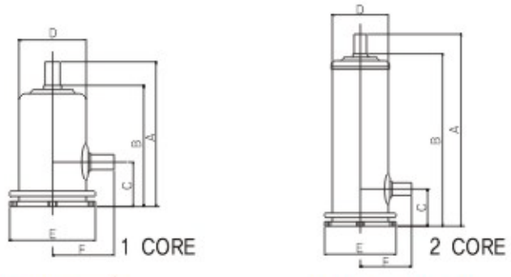


Features, Advantages & Benefits

- Filtration first for more effective use of surface area of desiccant
- Soluble contaminant capacities for water, acid
- Cushioned flow for non-turbulent performance
- Process controlled fiberglass filter network for premium filtration
- Corrosion resistant epoxy power paint finish
- Rugged steel shells for shock resistance
- Low pressure drop-full flow fitting
- Furnished with seals to prevent moisture penetration
- Maximum design pressure is 500psiG
- Compatible with CFC, HCFC and HFC refrigerants
- May be mounted in any position easily

NARA'S LIQUID LINE AND SUCTION LINE FILTER-DRIERS are often referred as System Protectors because they remove harmful elements from the circulating refrigerant before serious damage results. Keeping the system clean and free of foreign contaminants that can restrict the operation of valves, block capillary tubes or damage compressors is the best way to assure trouble-free operation. These contaminants can be solid, such as metal filings, flux, dust and dirt.
Other equally menacing contaminants are soluble, such as acid, water, resin and wax.
The bead style filter-drier uses a less complicated manufacturing process, so there is less change of error. The active drying material is in the form of beads or pellets. No bonding material is used to hold the beads together, but rather compacting is normally performed through some types of mechanical pressure. On the upstream side of the compacted beads is a filter network which cushions flow and traps the solid contaminants.
NARA FILTER-DRIERS protect the refrigerant system from liquid and solid contaminants.

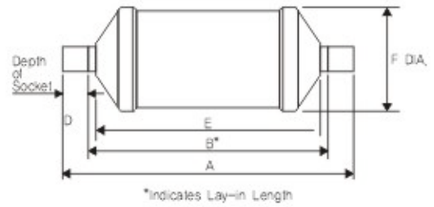
CORE FILTER DRIER

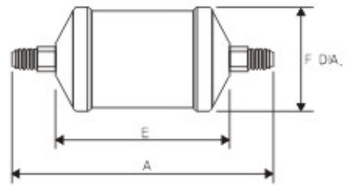


Specifications

MODEL NO.	NO. of CORES	CONNECTION		DIMENSIONS(mm)					
		INLET	OUTLET	A	B	C	D	E	F
NFDS-485	1	5/8	5/8	246	206	76	114	146	105
NFDS-487	1	7/8	7/8	246	206	76	114	146	105
NFDS-489	1	1 1/8	1 1/8	246	206	76	114	146	105
NFDS-4811	1	1 3/8	1 3/8	246	206	76	114	146	105
NFDS-4813	1	1 5/8	1 5/8	246	206	76	114	146	105
NFDS-4817	1	2 1/8	2 1/8	246	206	76	114	146	105
NFDS-967	2	7/8	7/8	390	350	76	114	146	105
NFDS-969	2	1 1/8	1 1/8	390	350	76	114	146	105
NFDS-9611	2	1 3/8	1 3/8	390	350	76	114	146	105
NFDS-9613	2	1 5/8	1 5/8	390	350	76	114	146	105
NFDS-9617	2	2 1/8	2 1/8	390	350	76	114	146	105

FILTER DRIER





Specifications

MODEL NO.	CONNECTION SIZE(inch)	DIMENSIONS(mm)				
		A	B	D	E	F
NFD-032	1/4" SAE	4-3/8			2-9/16	1-5/8
NFD-032S	1/4" ODF	3-7/8	3-1/8	3/8	2-9/16	1-5/8
NFD-052	1/4" SAE	4-13/16			3	5-5/8
NFD-052S	1/4" ODF	4-7/16	3-11/16	3/8	3	5-5/8
NFD-053	3/8" SAE	5-1/8			3	5-5/8
NFD-053S	3/8" ODF	4-1/2	3-5/8	4/9	3	5-5/8
NFD-082	1/4" SAE	5-5/8			3-13/16	2-5/8
NFD-082S	1/4" ODF	5-1/4	4-1/2	3/8	3-13/16	2-5/8
NFD-083	3/8" SAE	5-15/16			3-13/16	2-5/8
NFD-083S	3/8" ODF	5-5/16	4-7/16	4/9	3-13/16	2-5/8
NFD-084	1/2" SAE	6-3/16			3-13/16	2-5/8
NFD-084S	1/2" ODF	5-3/8	4-3/8	1/2	3-13/16	2-5/8
NFD-163	3/8" SAE	6-7/8			4-3/4	2-5/8
NFD-163S	3/8" ODF	6-1/4	5-7/6	4/9	4-3/4	2-5/8
NFD-164	1/2" SAE	7-1/16			4-3/4	2-5/8
NFD-164S	1/2" ODF	6-5/16	5-5/16	1/2	4-3/4	2-5/8
NFD-165	5/8" SAE	7-1/2			4-3/4	2-5/8
NFD-165S	5/8" ODF	6-9/16	5-5/16	5/8	4-3/4	2-5/8
NFD-304	1/2" SAE	9-7/8			7-1/2	3-1/16
NFD-304S	1/2" ODF	9-1/8	8-1/8	1/2	7-1/2	3-1/16
NFD-305	5/8" SAE	10-5/16			7-1/2	3-1/16
NFD-305S	5/8" ODF	9-5/16	8-1/16	5/8	7-1/2	3-1/16
NFD-306S	3/4" ODF	9-11/16	8-7/16	5/8	7-1/2	3-1/16
NFD-307S	7/8" ODF	9-7/8	8-3/8	3/4	7-1/2	3-1/16
NFD-309S	1-1/8" ODF	10-1/4	8-7/16	1	7-1/2	3-1/16
NFD-414	1/2" SAE	10			7-5/8	3-11/16
NFD-415S	5/8" ODF	9-7/16	8-3/16	5/8	7-5/8	3-11/16
NFD-417S	7/8" ODF	10	8-1/2	3/4	7-5/8	3-11/16
NFD-419S	1-1/8" ODF	10-5/16	8-1/2	3/4	7-5/8	3-11/16
NFD-757S	7/8" ODF	15-7/16	13-15/16	3/4	13-1/16	3-11/16
NFD-759S	1-1/8" ODF	15-3/4	13-7/8	15/16	13-1/16	3-11/16

DIGITAL THERMO CONTROLLER

CE





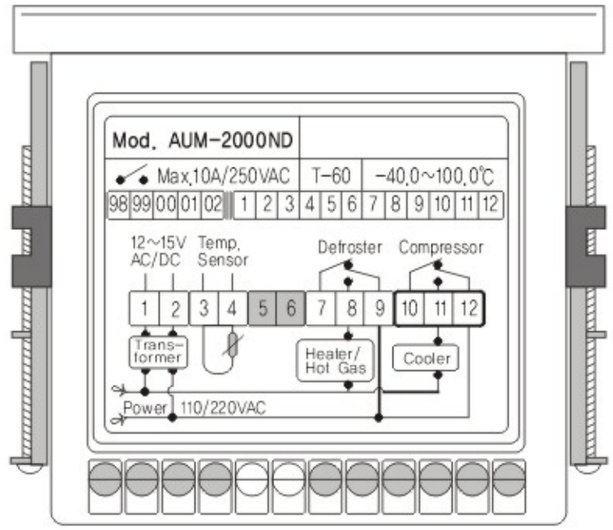
Aum-2000ND

It is solely for refrigeration as a unit that Micro-Processor has been installed in to control a desirable temperature as well as a defrosting mode. Especially it is reliable performance based on a system of the feed back, which always sorts out and inspects the results of its system. Furthermore, this system also compares the selected set value with the resulted value of the system in order to correct and perform automatically. And therefore, it can accurately detect, and show the figure up to one decimal place. The range that can be covered is from -40.0℃ to 100℃.
There are functions such as S.V.(The value of selection), DIF.(Differential), CA.(Calibration), T.D.(The time of delay), INT.(The interval of a defrosting cycle), DEF.(The completion of defrosting time), H/G(The method of defrosting by "Electric Heater" or "Hot Gas"), I/O(The Compressor IN or OUT).
AUM-2000ND is conveniently designed for installing in panel. It consists of a main body, transformer and sensor. The available power supply is 12~15VAC/DC. And the sensor does not required any certain directions.

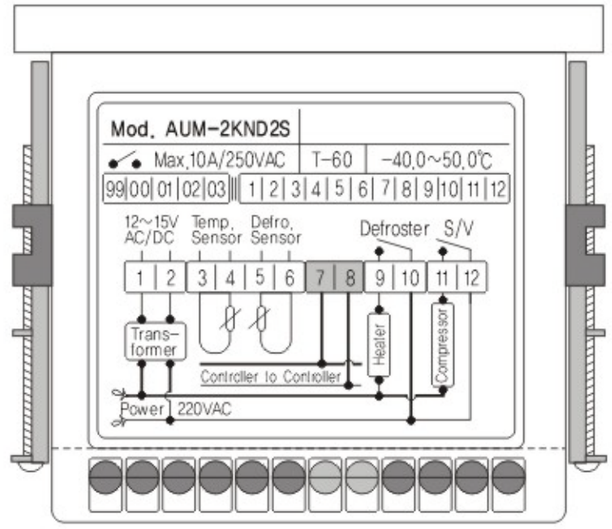
Aum-2KND2S

The distinguishable character of this model particularly suits the "open showcase" whose several freezers are usually operated by the huge compressor. The unit of this model in which the micro-processor has been installed perfectly performs all the basic functions of refrigeration, and the defrosting function under the regulation of the temperature. When the compressor is turned on, all linked freezers based on the parallel connection perform the functions individually. But the initiations and the completions of the defrosting function begin at the same time. Especially its reliable performance is based on the system of the feedback, which can compare the selected set value with the resulted value of the system in order to detect, correct and show the figure up to one decimal place.
Hence, the range that can be covered is from -40.0℃ to 50.0℃.
There are functions such as S.V.(The value of selection), DIF.(Differential), INT.(The interval of a defrosting cycle), DRY(The draining time), DEF.(The defrosting completion by temperature), C.T.(The control of time for the defrosting completion), F.S.(The lamp of sensor fault) and ON(The lamp of performance).
Every function has a lamp that helps the work of setting conveniently.
It is composed of a main body, two sensor and a transformer. The power supply is 12~15VAC/DC.
The sensor doesn't require any certain direction. As soon as the power supply and the sensor is switched on, the temperature will be displayed on the window.

Aum-2000ND



Aum-2KND2S



BRAZED PLATE HEAT EXCHANGER

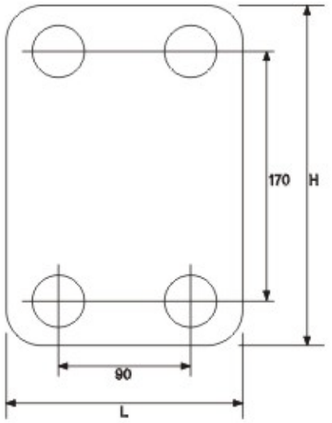


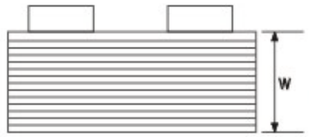
Features, Advantages & Benefits

NARA Brazed Plate Heat Exchanger is of "Compact Size and High Performance." All of our brazed plate heat exchangers, whatever their use is for only the highest quality materials are used to ensure maximum life time and corrosion resistance.
That means subjected to the burst pressure sample test which is five times of maximum design pressure. The burst pressure is in excess of 100bar. It is composed of high quality & thin corrugated stainless steel plate. Heat exchanger is well established in a variety of applications which include: evaporator, condenser, oil cooler etc. Connections are various in size; threaded, rotalock or soldering type. The Brazed Plate Heat Exchanger is the most suitable for use in reversible heat pump systems and is used in system using secondary loops, because of the close temperature approach and high efficiency capability of this unit type.
A Brazed Plate Heat Exchanger is used in a chiller or Heat Pump may successfully contribute to the added value and cost reduction of the total construction.

- Will reduce size and cost of completing chiller and heat pump structure.
- Is simpler, thus lower cost to mount and insulate.
- Reduces the amount of refrigerant.
- With its light weight contributes to the cost reduction of transportation and installation.

M15 SERIES

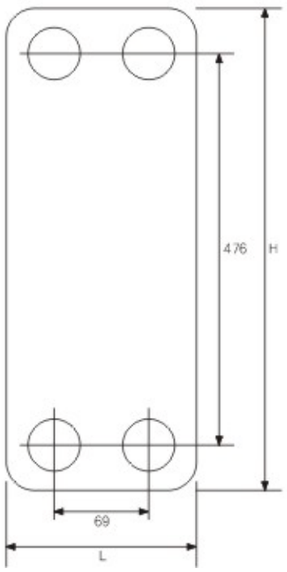




*Connections : 25mm
*W=11+(2.3×n)
*n : Number of Plates

MODEL	HP	DIMENSION (L×W×H)	REFRIGERANT PIPE		WATER PIPE	
			INLET (φ)	OUTLET (φ)	INLET (φ)	OUTLET (φ)
M15-8	1/2	130×29×210	25	25	25	25
M15-12	1	130×39×210	25	25	25	25
M15-22	2	130×62×210	25	25	25	25
M15-30	3	130×80×210	25	25	25	25
M15-38	4	130×98×210	25	25	25	25
M15-46	5	130×117×210	25	25	25	25

M25 SERIES





*Connections : 35mm
*W=10+(2.5×n)
*n : Number of Plates

MODEL	HP	DIMENSION (L×W×H)	REFRIGERANT PIPE		WATER PIPE	
			INLET (φ)	OUTLET (φ)	INLET (φ)	OUTLET (φ)
M25-10	2	114×35×522	35	35	35	35
M25-14	3	114×45×522	35	35	35	35
M25-20	5	114×60×522	35	35	35	35
M25-30	7.5	114×85×522	35	35	35	35
M25-40	10	114×110×522	35	35	35	35
M25-60	15	114×150×522	35	35	35	35