KSB6030 EM MARK ISO 9001/ ISO14001 특허청

INNOBIZ "기술혁신형중소기업" "CE" GOST-R VISION기업 "인천시비전기업"

High technolgy Inno-Biz enterprise

DONG YANG ENGINEERING CO.,LTD.

INDEX

DONG YANG
ENGINEERING CO.,LTD.

No.1 DONG YANG ENGINEERING

Green-environment energy technology

High efficient energy saving technology

Humanism & customer-oriented management

COMPANY PROFILE
HISTORY

No.1 DONG YANG ENGINEERING

1980~	1983	Establishment
	1990	Development of vacuum freezing dryer
	1991	Approval of KOREA STANDARD " KS B 6030" for refrigerant stop valve.
1990~	1992	Development of evaporative condenser,
		Evaporating pressure regulator(E.P.R),
		Automatic gas purger
	1995	Development of aluminum unit cooler
	1996	Technical tie up with HASEGAWA REFRIGERATION LTD. Japan.
		Granted guaranteed promising technology company by SMBA
	1997	Approval of ISO 9001,
		Certificate of quality "EM" mark from KATS for "evaporative condenser"
		Development of solenoid valve
	1998	Patent registration ("Aluminum super cooling coil")
	1999	Approval of New Technology Venture Company from SMBA,
		Certificate of quality "EM" mark from KATS for "unit cooler"
2000~	2000	Technical tie up with AOI Japan.
	2003	Development of plate ice maker
	2004	Agent registration with "VILTER" Compressor
		Development of refrigerant recycling machine
	2005	Approval of ISO 14001
	2006	Obtainment DUN's Number(68-920-4766) and
		NCAGE:Nato Commercial and Government Entity,
	2007	Authorization of export leading company from KOTRA
	2008	Approval of "Inno-Biz" company from SMBA authorize
		Approval of "CE" certificate(evaporative condenser, unit cooler, tunnel freezer)
		from TUV NORD.
	2008	ASME "U" Stamp for ASME Section VIII Division 1, boiler and pressure vessels.
	2009	Awarded Korean Industry Medal for Refrigeration and Air conditioning Industry Development meritorious company
2010~	2010	Patent registration ("Refrigerant Recovery and Recycling System")
	2011	Approval of "Inno-Biz" company from SMBA authorize
	2011	ASME "U" Stamp for ASME Section VIII Division 1, boiler and pressure vessels.
	2012	Approval of "CE" and GOST certificate(Pressure Receiver)
		Patent registration ("Super high pressure refrigerant recovery and recycling system")
	2013	Awarded Excellent taxpayer's prize from National Tax Service

DONG YANG ENGINEERING CO.,LTD. founded in 1983, and is one of the leading engineering and manufacturing company in the field of industrial refrigeration and cooling system. More than 30years production of industrial refrigeration technology has developed DEC into a specialist in application focused and custom engineered solutions for refrigeration systems. Our "designed-to-order" philosophy and highly efficient and various production lines enable us to produce optimized energy saving and high efficient for every application.

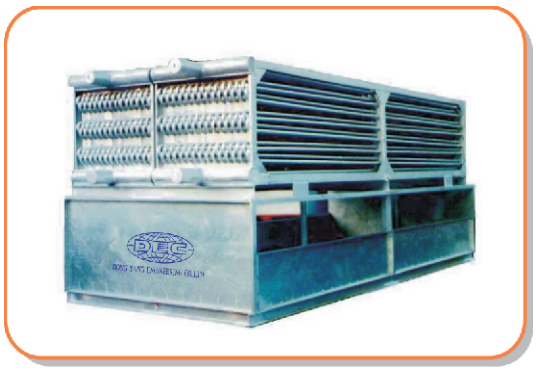
KSB6030 EM MARK ISO 9001/ ISO14001 특허청

INNOBIZ "기술혁신형중소기업" "CE" GOST-R VISION기업 "인천시비전기업"

INTRODUCTION

The new and expanded ST Series of evaporative condenser is the latest development from DEC reflecting our commitment to develop the products for specialized customer applications.
This evaporative condenser is an ideal of unrestricted open installation which is not required external static pressure capability, extremely low sound level and condensing pressure control more accurate. It has many distinguishable features that are direct drive cast aluminum axial fan, motor, PVC air inlet louver, cleanable spray tree header and integral spray pump arrangement. Fan components are partitioned to provide for capacity control through fan cycling.

CONDENSING COIL



The critical component :
Coil & fan housing are hot dip galvanized as standard all DEC model of evaporative condensers.

Hot dip galvanizing is the most effective method of protecting steel against corrosion. Applied by immersing fabricated articles in a bath of molten zinc, the galvanized coating is metallurgically bonded to the underlying steel forms an impervious barrier between the steel and the corrosive environment.

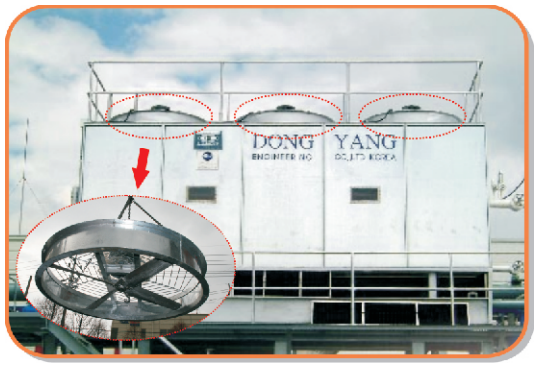
It does not adhere to the surface like paint, it becomes the part of the surface. At the interface, the steel and the zinc are combined into an iron-zinc alloy so it won't be peel away or crumble.

The ST series condenser utilize a heat-transfer coil to assure a long life.
The coil circuits are staggered in the direction of the air flow to ensure maximum air turbulence and water coverage across the coil for optimum heat transfer performance.
All circuits are adequately pitched to provide free and complete drainage. Prior to assembly, each circuit is tested in water at air pressure of 350 psig. After assembly the complete coil is tested again then shipped out.

The condensing coil assembly is supported by a welded structural steel frame. The entire coil assembly including the framework is hot dip galvanized. (Stainless steel water basin & frame are available)

HOT DIP GALVANIZED CONDENSING COIL
- THE MOST EFFECTIVE METHOD OF CORROSION PROTECTION

FAN SECTION & FAN MOTOR



The ST series condenser has heavy duty cast aluminum axial fans mounted on a galvanized steel housing.

Direct drive - totally enclosed, fan cooled, ball bearing type electric motor. The fan section is mounted on the top of the coil section and thrown the air straight up and well away from the air intake. The fan is directly coupled to the motor shaft.

SPRAY ASSEMBLY-WATER DISTRIBUTION

The noncorroding PVC spray pipes provide complete water coverage from low pressure. The pipes are closely spaced and have non-clogging ABS spray nozzles. Its very efficient spray arrangement creates an overlapping spray pattern that gives excellent water coverage throughout the coil and reducing scale formation under all operating conditions.
The water is distributed by precisely molded ABS spray nozzles with large orifice openings to eliminate clogging. Nozzles are threaded into the spray header to provide an easy maintenance.

ELIMINATORS

The ST series of multiple break design eliminator provides very efficient removal of water droplets and mist from the air stream. The eliminator is made of noncorroding PVC for maximum protection against even the most corrosive atmospheres.
The light weight PVC eliminator is easily removed for acessing to the water distribution system.

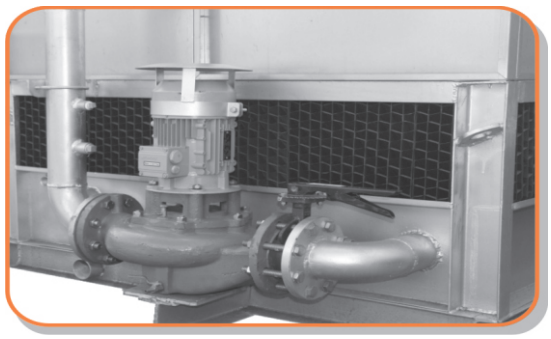
WATER PAN SECTION

The entire pan assembly is galvanized steel. The large circular access opening at the PVC honeycomb for air inlet provides easy access for an internal inspection and a periodic maintenance. The brass flat valve and strainer are conveniently located near the wall for easy adjustment and cleaning.

■ Stainless steel tube &
water basin are available.

WATER PUMP

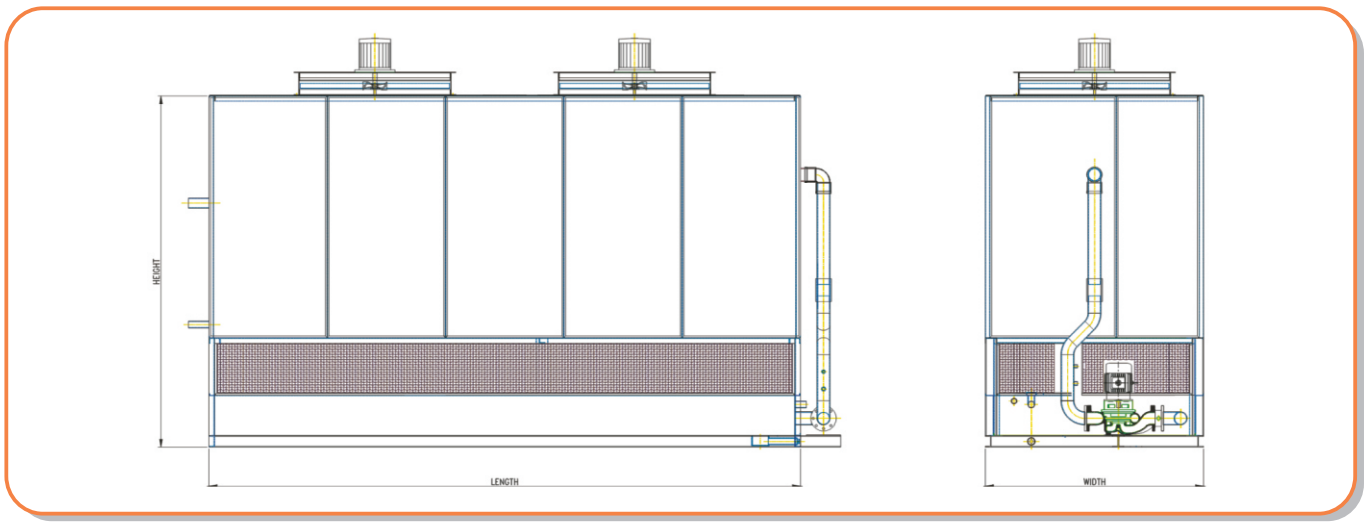
The spray water circulating pump is a close-coupled centrifugal unit with a ductile iron housing, closed impeller, mechanical seal, and is driven by an open drip-proof motor.
The pump is mounted vertically under an all-weather hood to permit self inlet connection. All external pump piping are Sch 40 steel and PVC pipe.



MODEL	MOTOR(kw)	VOLTAGE
DY-LP 80A	1.5	220/380
DY-LP100A	3.7	220/380

EVAPORATIVE CONDENSER
STI-LINE INDUCED DRAFT MODEL

INDUCED DRAFT MODEL



SPECIFICATION

STI-LINE EVAPORATIVE CONDENSERS

Cond. Temp. : 35℃
Wet-Bulb Temp. : 26.7℃
1RT = 3,320kcal/hr

Model (EC STI)	Nominal Capacity (RT)	Fan and Motor				Water Pump				Dimensions (mm)			Connections(mm)				
		Air Flow CMM	Motor Φ	x kw	x set	Water Flow LPM	Motor Φ	x kw	x set	L	W	H	Gas	Liquid	Make Up	Drain	Over Flow
STI-50	50	860	950	1.5	2	1228	80	1.5	1	3180	1650	2510	50(2)	40(2)	25	40	40
60	60	860	950	1.5	2	1228	80	1.5	1	3180	1950	2510	50(2)	40(2)	25	40	40
70	70	860	950	1.5	2	1228	80	1.5	1	3180	1710	2765	65(2)	50(2)	25	40	40
80	80	860	950	1.5	2	1228	80	1.5	1	3180	1950	2765	65(2)	50(2)	25	40	40
90	90	860	1300	2.2	1	1228	80	1.5	1	3180	2130	2765	65(2)	50(2)	25	40	40
100	100	1720	1300	2.2	2	1228	80	1.5	1	4180	1830	2765	65(2)	50(2)	25	40	40
110	110	1720	1300	2.2	2	1980	80	1.5	1	4180	1950	2765	80(2)	50(2)	25	40	50
120	120	1720	1300	2.2	2	1980	100	1.5	1	6180	1890	2510	80(2)	65(2)	25	40	65
130	130	1720	1300	2.2	2	1228	100	3.75	1	6180	2010	2510	80(2)	65(2)	25	40	65
140	140	1720	1300	2.2	2	1980	100	3.75	1	6180	2190	2510	100(2)	80(2)	25	40	80
150	150	1720	1300	2.2	2	1980	100	3.7	1	6180	1710	2765	100(2)	80(2)	25	40	80
160	160	1720	1300	2.2	2	1980	100	3.7	1	6180	1890	2765	100(2)	80(2)	25	40	80
170	170	1720	1300	2.2	2	1980	100	3.7	1	6180	2010	2765	100(2)	80(2)	25	40	80
180	180	2580	1300	2.2	3	1980	100	3.7	1	6180	2130	2765	125(2)	100(2)	25	40	80
190	190	2580	1300	2.2	3	1980	100	3.7	1	6180	2250	2765	125(2)	100(2)	25	40	80
200	200	2580	1300	2.2	3	1980	100	3.7	1	6180	1890	3050	125(2)	100(2)	25	40	80
250	250	3440	1300	2.2	4	2456	80	1.5	2	6180	3100	2765	80(4)	65(4)	25(2)	40(2)	65(2)
300	300	3440	1300	2.2	4	3960	100	3.7	2	6180	3650	2765	100(4)	80(4)	25(2)	40(2)	80(2)
350	350	3440	1300	2.2	4	3960	100	3.7	2	6180	4200	2765	100(4)	80(4)	25(2)	40(2)	80(2)
400	400	5160	1300	2.2	6	3960	100	3.7	2	6180	3860	3050	125(4)	100(4)	25(2)	40(2)	80(2)
450	450	5160	1300	2.2	6	4400	100	5.5	2	6180	4350	3050	150(4)	125(4)	25(2)	40(2)	100(2)
500	500	5160	1300	2.2	6	4400	100	5.5	2	6180	4800	3050	150(4)	125(4)	25(2)	40(2)	100(2)
550	550	5160	1300	2.2	6	4400	100	5.5	2	6180	5220	3050	150(4)	125(4)	25(2)	40(2)	100(2)

*The above details are subject to change without prior notice according to product development.

REFRIGERANT RECOVERY & RECYCLING MACHINE


RRM Manual Model

RRM Auto Model

RRM Semi-Auto model

The system is a self contained package consisting of a refrigerant compressor, oil separator, storage receiver, water cooled or air cooled condenser, filter drier and necessary control valves and horses. All necessary controls and safety devices are permanent parts of the system. This complete system is a compact design mounted on swivel casters with lock brakes.

■ OIL SEPARATOR AND HEATER

The oil separator is included with drain valve and heater can be purnished with an optional T/C.

■ STORAGE RECEIVER

Several storage receiver sizes are available for each model. This pressure vessel is a horizontal type with two sight glasses to check liquid level. The receiver can be designed and stamped in accordance with the ASME Boiler and Pressure Vessel Code.

■ GAUGES & SENSOR

Unit-mounted gauges allow the technician to monitor suction and discharge pressure of the unit and can be seen the digitalized pressure condition.

●RECOVERY, RECYCLING AND RECLAMATION

To recover means to remove refrigerant in any condition from a system and to store it in an external container. To recycle means to reduce contaminants in used refrigerants by separating lubricant, removing noncondensables, and using devices such as filter-driers to reduce moisture, acidity, and particulate matter.

The DEC's refrigerant recovery and recycling unit is designed to handle all of the major refrigerants used in air conditioning and refrigeration unit in cluding R11, R22, R114, R123, R12, R134a, R404, R507, R502, etc.

■ CONTROLS

Mounted touch screen panel with PLC is for an operating and monitoring the unit such as high & low pressure, refrigerant flow, consumption power.

■ FILTER DRIER

The filter drier is permanently mounted on the system so that the gas is filtered when it is in & out.

■ SAFETY DEVICE

A high pressure switch is installed to protect the receiver and from compressor's over pressurization. The relief device meets ASME specifications and Korean High Pressure Gas Safety Control Law.

■ CONDENSER

The water cooled condenser is a tube & tube design. And the air cooled condenser is a plate fin & tube design. These condensers are remotely controlled by the PLC program and pressure.

RRM MODEL

- RRM Model L-Series recovery & recycling of low pressure refrigerant CFC-11, HCFC-123, CFC-114.
- RRM Model Series applicable to CFC-12, CFC-500, CFC-502, HFC-134a, HCFC-22.

TABLE 1-RRM L-SERIES SPECIFICATIONS

Refrigerant Capacity at 80% Full(kg)

DESCRIPTION		Low Pressure Model L-series					
		380L	600L	1000L	380L 114	600L 114	1000L 114
Applicable Refrigerant		CFC-11 HCFC-123	CFC-11 HCFC-123	CFC-11 HCFC-123	CFC-114	CFC-114	CFC-114
Storage Volume 80% full (kg)		372	622	1006	372	622	1006
Power Source (VxPhxHz)		220-3-60	220-3-60	220-3-60	220-3-60	220-3-60	220-3-60
Dimension (mm)	Length Width Height	1824 709 1269	2094 810 1581	2747 868 1739	1824 709 1269	2094 810 1581	2747 868 1739
Safety Valve		20A	20A	25A	20A	20A	25A

TABLE 2-RRM SPECIFICATIONS

Refrigerant Capacity at 80% Full(kg)

DESCRIPTION		Low Pressure Model L-series					
		300	500	1000	1500	2000	3000
Applicable Refrigerant		CFC-12, CFC-500, 502 HCFC-22 HFC-134a	CFC-12, CFC-500, 502 HCFC-22 HFC-134a	CFC-12, CFC-500, 502 HCFC-22 HFC-134a	CFC-12, CFC-500, 502 HCFC-22 HFC-134a	CFC-12, CFC-500, 502 HCFC-22 HFC-134a	CFC-12, CFC-500, 502 HCFC-22 HFC-134a
Storage Volume 80% full (kg)	CFC-12 CFC-500 CFC-502 HCFC-22 HFC-134a	331 292 307 300 305	552 487 513 502 510	1103 972 1024 1002 1018	1651 1456 1532 1500 1524	2202 1941 2044 2000 2032	3306 2915 3069 3003 3051
Power Source (VxPhxHz)		220-3-60(50) 380-3-60(50)	220-3-60(50) 380-3-60(50)	220-3-60(50) 380-3-60(50)	220-3-60(50) 380-3-60(50)	220-3-60(50) 380-3-60(50)	220-3-60(50) 380-3-60(50)
Dimension (mm)	Length Width Height	1824 809 1269	2094 910 1581	2577 1068 1839	3051 1156 1927	3112 1278 2049	3572 1318 2189
Safety Valve		15A	20A	25A	25A	25A	25A

* RRM Series including swivel caster with brake.
* All dimension are including caster and electric control device.

*The above details are subject to change without prior notice according to product development.

REF TANK

TABLE 3-REF-TANK SPECIFICATIONS

Refrigerant Capacity at 80% Full(kg)

DESCRIPTION		REF TANK – Refrigerant Storage Tank					
		300	500	1000	1500	2000	3000
Storage Volume 80% full (kg)	CFC-12 CFC-500 CFC-502 HCFC-22 HFC-134a	331 292 307 300 305	552 487 513 502 510	1103 972 1024 1002 1018	1651 1456 1532 1500 1524	2202 1941 2044 2000 2032	3306 2915 3069 3003 3051
Dimension (mm)	Length Width Height	1824 609 790	2094 710 891	2577 868 1839	3051 956 1049	3112 1078 1259	3572 1218 1399
Safety Valve		15A	20A	25A	25A	25A	25A

- Refrigerant storage and recycling tank for RRM & RRP series.
- All models are design and manufacture by ASME code or KGS code.
- Mounted on swivel caster with brake.
- Installed safety valve and pressure gauge, level gauge, bottom drain connection with stop valve.

RRP MODEL – Portable Design & Oil-Less Reciprocating Compressor

■ RRP SERIES

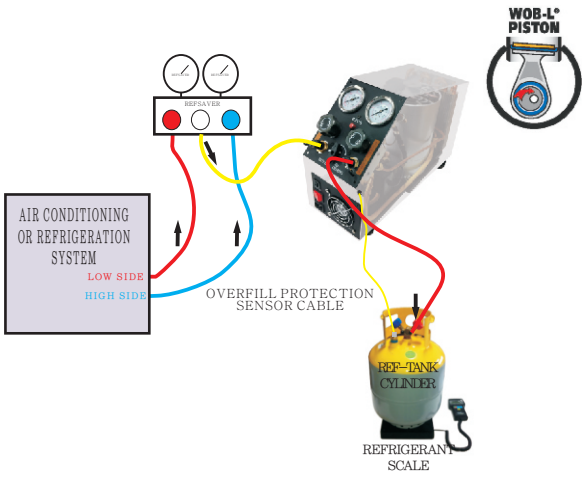


TABLE 4 – RRP SERIES SPECIFICATIONS

DESCRIPTION		RRP-2520 RRP-520 RRP-320		
Refrigerant		CFC, HCFC, HFC 전 냉매		
Operating Temp.		0℃ ~ 50℃		
Compressor 220/ 1/60(VxPhxH z)		1HP Turbo Twin Piston	1/2HP Turbo Piston	3/8HP Turbo Piston
Size (mm)	Length Width Height	500 500 500	600 600 1100	210 450 340
Recovery Rate (kg/min)	Direct Vapor	0.23-0.45	0.23-0.45	~0.34
	Direct Liquid	2.27-6.80	2.27-6.80	~1.00
	Push/Pull	9.97-30.0	9.97-30.0	~4.41
Over Fill Sensor		Connector for sensor cord		

TABLE 4 – RRP SERIES ACCESSORY

Over fill sensor & Cable

Filter Drier

Sight Glass

Charging Scale

Digital Manifold Gauge

INTRODUCTION

DEC provide high efficient aluminum unit coolers. Which were awarded the EM mark for an excellent performance, quality and efficiency. Ammonia and aluminum are very compatible and have been used for several decades. The properties of aluminum make an ideal metal to use in an ammonia refrigeration application.

The density of the metal directly affects the weight of the heat exchanger, and when multiplied by the specific heat capacity the product indicates the amount of energy required to heat up and cool down the heat exchanger during a defrost cycle.
The thermal conductivity of the metal affects the thermal performance of the heat exchanger,

ALP SERIES UNIT COOLER

- Suitalble for most refrigerated storage areas
- Defrost type ; water, electric heater, hot gas
- High efficiency and reliable quality management
- Available for customer's design
- Suitable for cold storage, food processing, cooling of various industries, deep freezing, working area & etc.
- Approval of Excellent Machine, Matrials, Mechanism from KATs(EM certification) and CE, ISO 9001, ISO 14001.

■ Model : ALP-C/F/U/S 00

- Effective coil length
- C (Ceiling type)
- F (Front blow type)
- U (Upper blow type)
- S (Suction blow type)

ALP-C / CEILING TYPE

ALP-U / FLOOR MOUNTED TYPE

ALP-F / FLOOR MOUNTED TYPE

ALP-DPF / FLOOR MOUNTED TYPE

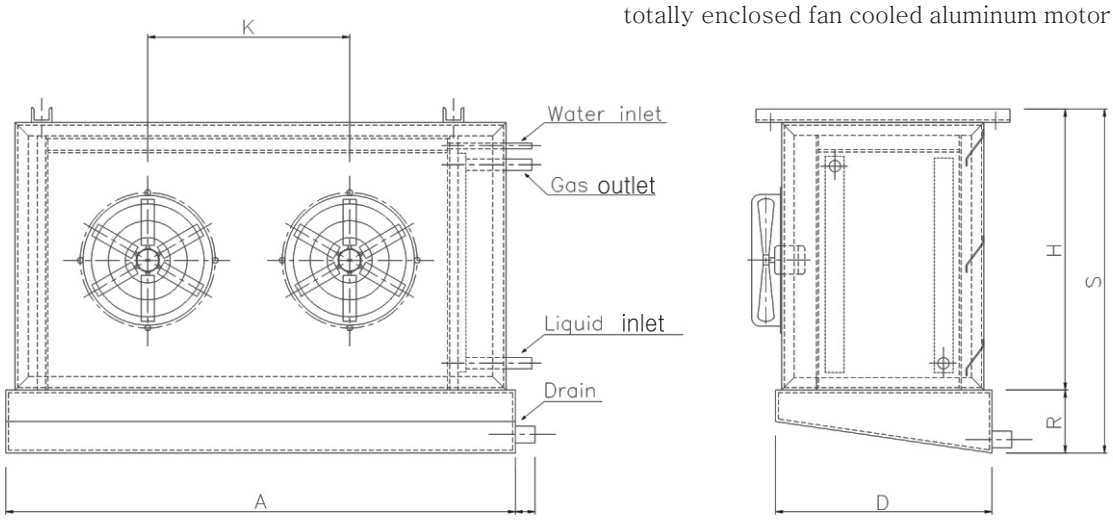
UNIT COOLER

ALUMINUM UNIT COOLER ALP- C SERIES

ALP-C / CEILING TYPE

UNIT COOLER - ALP C TYPE

- Increase heat transferance by using aluminum plate fin and tube
- Apply from small to large size of cold storages
- The T/C prevents over heat - electric heater defrosting system
- Available plate fin pitch : from 6mm to 20mm
- Power : 3Ph, 220V/380V, 50Hz / 60Hz
- Aluminum tube : Φ22, 1.8t
- Air blow & installation : front blow and ceiling mounted type
- Aluminum axial fan or amass fan : totally enclosed fan cooled aluminum motor



SPECIFICATION

MODEL	EVAPORATOR(COIL SECTION)					FAN & MOTOR			CONNECTION(A)				EXTERNAL SIZE(mm)		
	RxS	TRANSFER AREA(㎡) 8mm	10mm	12mm	EFFECT LENGTH	DIA Φ	kw	AIR VOLUME (CMM)	IN/OUT	WATER VOLUME (ℓ/min)	WATER INLET	DRAIN	LENGTH (A)	WIDTH (D)	HEIGHT (S)
ALPC 15	12x12	123.6	99.6	84	1500 (mm)	400	0.4 x(2)	120	15 25	100	25	40	1700	1000	1100
	10x12	154.5	124.5	105											
ALPC 20	10x12	164.8	132.8	112	2000 (mm)	550	0.75 x(2)	220	15 40	190	32	50	2200	1000	1100
	10x10	206	166	140											
ALPC 25	10x10	257.5	207.5	175	2500 (mm)	550	1.5 x(2)	350	15(2) 50(2)	280	50	80	2700	1210	1400
	8x10	309	249	210											
ALPC 30	10x10	370.8	298.8	252	3000 (mm)	600	2.4 x(3)	630	20(2) 65(2)	400	65	100	3200	1450	1400
	8x10	445	358.6	302.4											

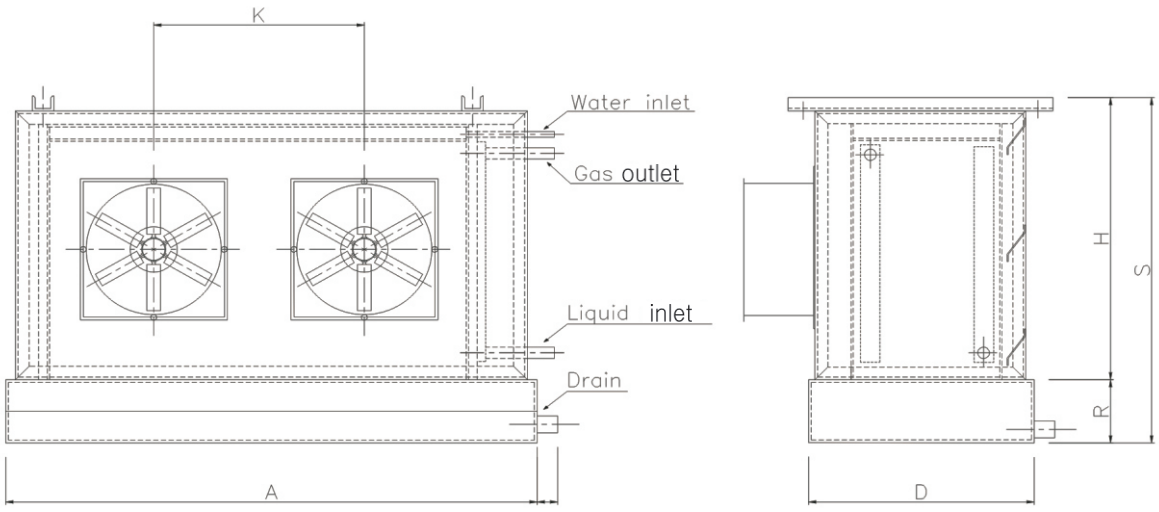
*The above details are subject to change without prior notice according to product development.

UNIT COOLER
ALUMINUM UNIT COOLER-ALP F TYPE SERIES

ALP-F/FRONT BLOW TYPE

UNIT COOLER - ALP F TYPE

- Increase heat transferance by using aluminum plate fin and tube
- Apply from small to large size of cold storages
- The T/C prevents over heat - electric heater defrosting system
- Available plate fin pitch : from 6mm to 20mm
- Power : 3Ph, 220V/380V, 50Hz / 60Hz
- Aluminum tube : Φ22, 1.8t
- Air blow & installation : front blow & floor mounted type
- Aluminum axial fan or amass fan : totally enclosed fan cooled aluminum motor



SPECIFICATION

MODEL	EVAPORATOR(COIL SECTION)					FAN & MOTOR			CONNECTION(A)				EXTERNAL SIZE(mm)		
	R x S	TRANSFER AREA(㎡)			EFFECT LENGTH	DIA Φ	kw	AIR VOLUME (CMM)	IN/OUT	WATER VOLUME (ℓ/min)	WATER INLET	DRAIN	LENGTH (A)	WIDTH (D)	HEIGHT (S)
		8mm	10mm	12mm											
ALP F 15	12 x 10	185.4	149.4	126	1500 (mm)	500	0.75 x(2)	220	15	100	40	65	1700	1000	1350
	12 x 12	222.5	179.3	151.2					32						
ALP F 17	12 x 12	252.1	203.2	171.4	1700 (mm)	550	1.5 x(2)	340	20	220	40	65	1900	1000	1350
	14 x 14	343.2	276.6	233.2					50						
ALP F 19	14 x 14	383.6	309.1	260.7	1900 (mm)	600	2.2 x(2)	440	25	340	50	80	2100	1135	1485
	16 x 14	438.4	353.2	297.9					50						
ALP F 21	16 x 14	484.5	390.4	329.3	2100 (mm)	600	2.2 x(3)	630	25(2)	400	65	100	2300	1250	1600
	16 x 16	553.7	446.2	376.3					50(2)						
ALP F 23	16 x 14	530.7	427.6	360.6	2300 (mm)	600	2.2 x(3)	660	25(2)	490	65	100	2500	1250	1600
	16 x 16	606.5	488.7	412.2					50(2)						
ALP F 26	16 x 16	685.6	552.4	465.9	2600 (mm)	650	3.7 x(3)	780	25(2)	560	80	125	2800	1250	1600
	16 x 18	771.3	621.5	524.2					65(2)						

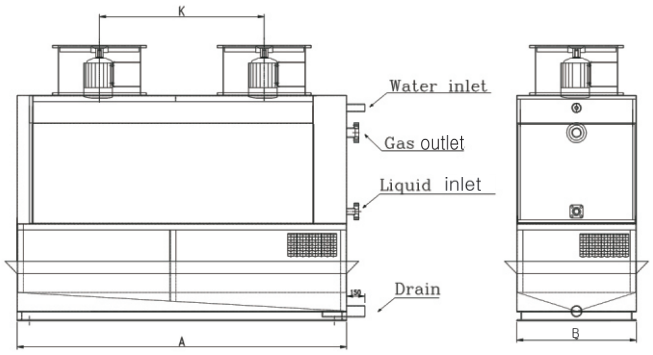
*The above details are subject to change without prior notice according to product development.

UNIT COOLER
ALUMINUM UNIT COOLER–ALP– U/S TYPE SERIES

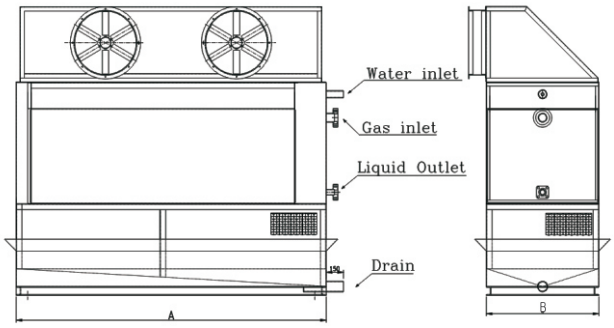
ALP–U / UPPER BLOW TYPE

UNIT COOLER – ALP U/S TYPE

- Increase heat transferance by using aluminum plate fin and tube
- Apply from medium to large size of cold storages
- The T/C prevents over heat – electric heater defrosting system
- Available plate fin pitch : from 6mm to 20mm
- Power : 3Ph, 220V/380V, 50Hz / 60Hz
- Aluminum tube : Φ22, 1.8t
- Air blow & installation : front blow & floor mounted type
- Air blow & installation :
  ALP U – Upper blow and floor mounted type
  ALP S – Suction front blow and floor mounted type
- Aluminum axial fan or amass fan :
  totally enclosed fan cooled aluminum motor



MODEL : ALP–U



MODEL : ALP–S

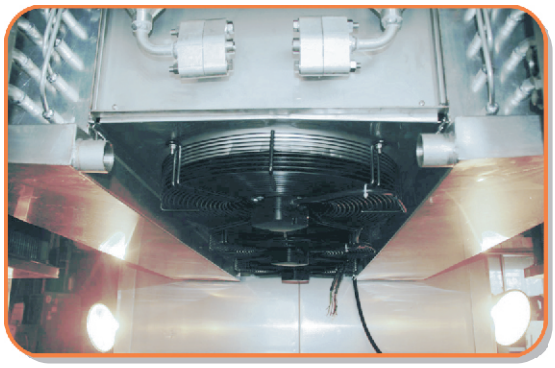
SPECIFICATION

MODEL	EVAPORATOR(COIL SECTION)					FAN & MOTOR			CONNECTION(A)				EXTERNAL SIZE(mm)			
	R x S	TRANSFER AREA(㎡) 8mm	10mm	12mm	EFFECT LENGTH	DIA Φ	kw	AIR VOLUME (CMM)	IN/ OUT	WATER VOLUME (ℓ /min)	WATER INLET	DRAIN	LENGTH (A)	WIDTH (B)	HEIGHT (C)	
ALP U/S 15	12 x 10	185.4	149.4	126	1500 (mm)	500	0.75 x(2)	220	15	100	40	65	1900	1000	U	1970
	12 x 12	222.5	179.3	151.2					32						S	2150
ALP U/S 17	12 x 12	252.1	203.2	171.4	1700 (mm)	550	1.5 x(2)	340	20	220	40	65	2100	1000	U	1970
	14 x 14	343.2	276.6	233.2					50						S	2430
ALP U/S 19	14 x 14	383.6	309.1	260.7	1900 (mm)	600	2.2 x(2)	440	25	340	50	80	2300	1135	U	2450
	16 x 14	438.4	353.2	297.9					50						S	2480
ALP U/S 21	16 x 14	484.5	390.4	329.3	2100 (mm)	600	2.2 x(3)	630	25(2)	400	65	100	2500	1250	U	2590
	16 x 16	553.7	446.2	376.3					50(2)						S	2670
ALP U/S 23	16 x 14	530.7	427.6	360.6	2300 (mm)	600	2.2 x(3)	660	25(2)	490	65	100	2700	1250	U	2590
	16 x 16	606.5	488.7	412.2					50(2)						S	2670
ALP U/S 26	16 x 16	685.6	552.4	465.9	2600 (mm)	650	3.7 x(3)	780	25(2)	560	80	125	3000	1250	U	2590
	16 x 18	771.3	621.5	524.2					65(2)						S	2860

*The above details are subject to change without prior notice according to product development.

UNIT COOLER
STAINLESS STEEL UNIT COOLER- ORDER MADE TYPE

Due to DEC' s design-to order approach, the range of unit cooler virtually unlimited. The choice of materials is defined by customer' s specified mode of application: aluminum, copper, stainless steel or fully hot-dipped galvanized steel. In accordance with latest innovation both the tubes and fins can be made completely of stainless steel.



ALP-M-Type / DOWN BLOW TYPE

STAINLESS STEEL UNIT COOLER

UNIT COOLER - ALP M TYPE

- Aluminum plate fin and tube :High efficient Twin Coil
- Application : Tunnel type freezer
  The design and provision of coolers for the production of food (e.g. fish, shellfish, meat), vegetables.
- Apply to fin pitch : 10/12/14/20mm
- Power Source : 3Ph, 220V/380V, 50Hz / 60Hz
- Evaporating Coil : Aluminum tube Φ22* 1.8t
- Air Flow : Down blow
- Fan and Motor : AC axial Fan & Motor

UNIT COOLER - SSP TYPE

- Materials : Stainless steel plate fin and tube
- Cooling and freezing : Food industry, Chemistry, Refrigeration industry, etc.
- Environmentally friendly design for "natural refrigerants" such as CO2 and NH3.
- Apply to fin pitch : 10/12/14/20mm
- Power Source : 3Ph, 220V/380V, 50Hz / 60Hz
- Evaporating Coil : Stainless steel Φ21.7 * 0.8t
- Air Flow : Available for customers design
- Fan and Motor : AC axial Fan & Motor

SPECIFICATION (STAINLESS STEEL UNIT COOLER)

MODEL	EVAPORATOR(COIL SECTION)					FAN & MOTOR			CONNECTION(A)				EXTERNAL SIZE(mm)		
	RxS	TRANSFER AREA(㎡)			EFFECT LENGTH	DIA Φ	kw	AIR VOLUME (CMM)	IN/ OUT	WATER VOLUME (ℓ /min)	WATER INLET	DRAIN	LENGTH (A)	WIDTH (D)	HEIGHT (S)
		8mm	10mm	12mm											
SSPC 15	12x12	123.6	99.6	84	1500 (mm)	400	0.4 x(2)	120	15 25	100	25	40	1700	1000	1100
	10x12	154.5	124.5	105											
SSPC 20	10x12	164.8	132.8	112	2000 (mm)	550	0.75 x(2)	220	15 40	190	32	50	2200	1000	1100
	10x10	206	166	140											
SSPC 25	10x10	257.5	207.5	175	2500 (mm)	550	1.5 x(2)	350	15(2) 50(2)	280	50	80	2700	1210	1400
	8x10	309	249	210											
SSPC 30	10x10	370.8	298.8	252	3000 (mm)	600	2.4 x(3)	630	20(2) 65(2)	400	65	100	3200	1450	1400
	8x10	445	358.6	302.4											

*The above details are subject to change without prior notice according to product development.

IQF MACHINE
CONTACT PLATE FREEZER

INTRODUCTION

DEC contact freezer has long been applied to deep freezing food industries such as fish, meat, vegetables, ice cream and instant foods.

DEC contact plate freezer can be designed for customer's requirements. It is available with 5 to 15 freezing stations for fast and efficient freezing. Freezing plate is vertical moving system by oil pressure. The freezing plate is made of extruded aluminum and mounted on a sturdy stainless steel framework.

FEATURES

- Aluminum alloy freezing plate
- Excellent durability
- High quality and efficient productivity
- Quick freezing time
- Easy handling & cleaning
- Double insulated cabinet with double doors (Optional)

SPECIFICATION

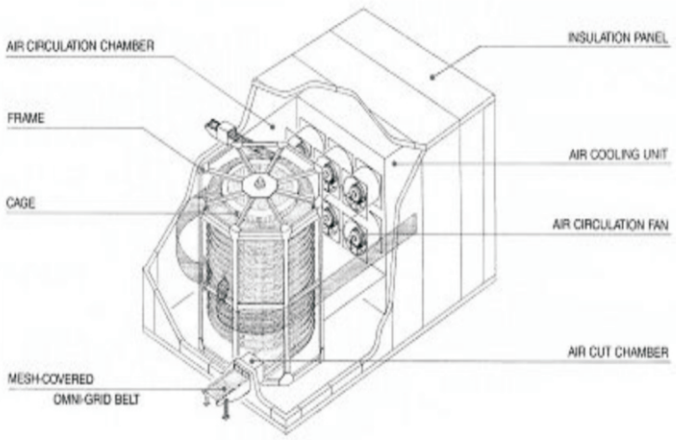
Detail \ Model		DYCF250	DYCF500	DYCF1000	DYCF1500	DYCF2000	DYCF2500	DYCF3000
Nominal freezing capacity (kg/ 1 round)		250	500	1000	1500	2000	2500	3000
Freezing time for one round (hr)		3.5	3.5	3.5	3.5	3.5	4	4
Freezing plate size (Thickness x L x W mm)		22x1500x900	22x2000x1250	22x2000x1250	22x2000x1250	22x2500x1450	22x3000x1450	22x3500x1450
No. of freezing plate		5	5	10	15	15	15	15
Plate spacing(mm)		60~110	60~110	60~110	60~110	60~110	60~110	60~110
Freezing volume of one plate (10kg pan)		5	10	10	10	14	16	20
Capacity of freezing (RT : 3,320kcal/hr)		6	13	25	38	50	63	72
Refrigerator requirements*(kw)		15	22	45	65	75	90	110
Oil pressure pump unit (kw)		1.5	1.5	1.5	1.5	2.2	2.2	2.2
Refrigerant		R22, R717, R134a, R23, R507a						
Vertical moving system		Oil Pressure Cylinder type						
Dimension	Length (mm)	2,800	3,300	3,300	3,300	3,800	4,000	4,700
	Width/Dept (mm)	1,530	1,830	1,830	1,830	2,030	2,030	2,130
	Height (mm)	2,700	2,700	3,130	3,845	3,845	3,845	3,600
Gross Weight (kg)		1,500	1,700	2,000	2,500	3,000	3,200	3,500

- The given nominal freezing capacity and refrigeration requirements apply to the following conditions.
- Net freezing time excepts the time of product's loading and unloading
- Clean and frost free conditions of freezing plates
- Thickness of product : Max. 50mm
- Initial product temperature : +10℃
- Final frozen product temperature : −20℃
- Evaporating temperature :−38℃

*The above details are subject to change without prior notice according to product development.

INTRODUCTION

DEC spiral belt freezer can be used for cooling and freezing of very large ranges of products such as meat, fish, poultry, ice cream, etc.



FEATURES

- Continous inline food freezing
- Saving process space
- High quality and efficient productivity
- Quick freezing time
- Smooth handling of products
- Easy access for sanitation and maintenance

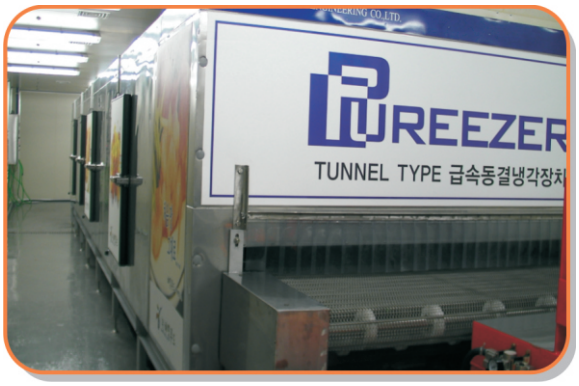
SPECIFICATION

Detail \ Model		DYSB 250	DYSB 350	DYSB 500	DYSB 800	DYSB 1000
Capacity (kg/hr)		250	350	500	800	1000
Size (mm)	Height	2800	2800	2800	3400	3400
	Width	3500	4200	4500	4800	5400
	Length	6000	6700	7000	7000	7400
Belt type		Mesh covered omni grid				
Belt width (mm)		356	457	508	508	559
Active belt width		305	356	457	457	508
Stations (tier)		9.5	8.5	8.5	13.5	14.5
Voltage		220V, 50/60Hz, 3Ph or 380V, 50/60Hz, 3Ph				
Motor belt (kw)		2.2kw	2.2kw	2.2kw	2.2kw	2.2kw
Compressor motor (kw)		37kw	55kw	75kw	55kw x 2	75kw x 2
Air cooling unit		Aluminum plate fin & coil				
Insulation panel		Polyuretha ne foam with stai nless stee l covered				
Belt washer		Option				

*The above details are subject to change without prior notice according to product development.

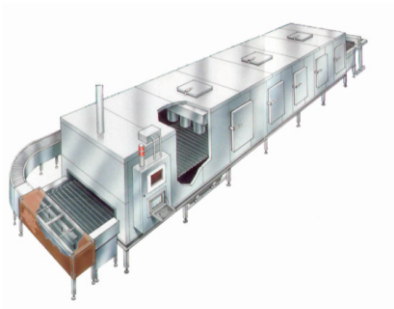
INTRODUCTION

DEC Tunnel Freezer(TF series)is very suitable for heat processed foods like meatball, hamburger, dumpling, pizza and quick freezing of crabs and shrimps. This IQF machine gives customers to upgrade the products quality and competivness.



MODEL	DIMENSION(M)	CAPACITY(kg/h)	POWER(kw)
DEC TF-1010	1 x 9.9	160	30
DEC TF-1215	1.5 x 11.6	270	48
DEC TF-1220	2 x 11.6	365	55
DEC TF-1225	2.5 x 11.6	470	70
DEC TF-1330	3 x 13.5	650	90
DEC TF-2035	3.5 x 19.8	1,000	132

COOLED FOODS	Boiled fish paste, dairy foods (dessert, pudding, jelly and etc.)	
FROZE N FOODS	Heat-processed foods	French fries, dumpling, chicken nugget, hamburger, fried fish, meatball & etc.
	Frozen foods	Meat & seafood, fruit (shrimp, crab, cuttlefish & etc.)
	Cooked with flour foods	Fried shrimp, oyster & noodle, spaghetti pizza, hot cake, rice cake & etc.



FEATURES

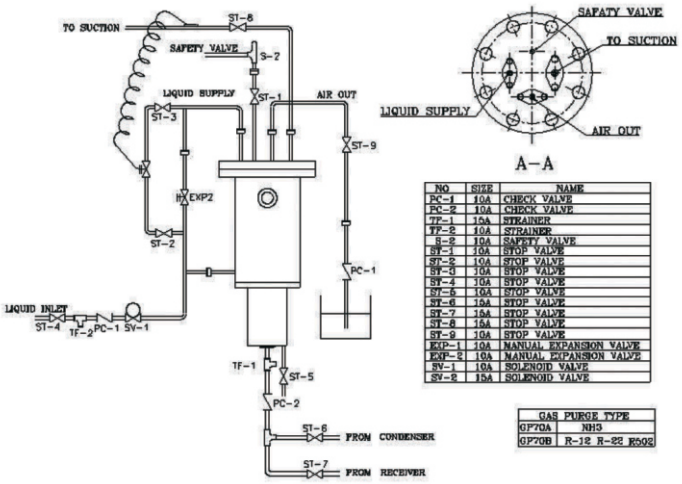
DEC provides the IQF with best quality and efficiency.

- Easy maintenance
- No food particles or dust stay
- Excellent corrosion resistant
- Excellnet defrost efficiency
- Excellent cooling efficiency
- Hygienic cooler and machine
- Variable conveyor speed
- Easy operation and tuch screen panel system
- Stainless steel& self supporting conveyor belt
- Clean aluminum plate fin coil cooler

Section	Material
Tunnel freezer casing	Stainless steel case with 125 thickness of polyurethane
Manual insulation door	Stainless steel (700mmW x 900mmH)
Chain & guide rail	Stainless steel (including stainless steel bolts and nuts)
Net conveyor assembly	Stainless steel
Unit cooler case & drain pan	Stainless steel case
Base and frame	Stainless steel or aluminum alloy

COOLING COIL TYPE GAS PURGER

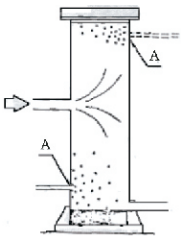
DEC-GP GAS PURGER SYSTEM

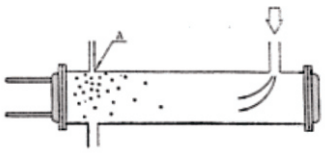


NO	SIZE	NAME
PC-1	10A	CHECK VALVE
PC-2	10A	CHECK VALVE
TF-1	10A	STRAINER
TF-2	10A	STRAINER
S-2	10A	SAFETY VALVE
ST-1	10A	STOP VALVE
ST-2	10A	STOP VALVE
ST-3	10A	STOP VALVE
ST-4	10A	STOP VALVE
ST-5	10A	STOP VALVE
ST-6	15A	STOP VALVE
ST-7	15A	STOP VALVE
ST-8	15A	STOP VALVE
ST-9	10A	STOP VALVE
EXP-1	10A	MANUAL EXPANSION VALVE
EXP-2	10A	MANUAL EXPANSION VALVE
SV-1	10A	SOLENOID VALVE
SV-2	15A	SOLENOID VALVE

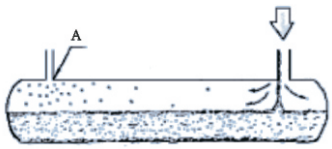
GAS PURGE TYPE	
GP70A	NH3
GP70B	R-12 R-22 R502

Non-condensable gas and installation

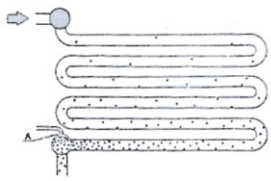




Shell & tube condenser

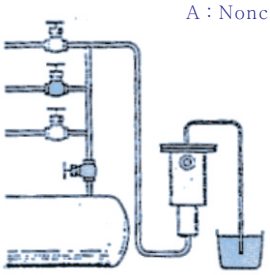


Receiver



Evaporative condenser

A : Noncondensable refrigerant



Installation

DEC gas purger is an essential component in refrigeration plant because it prevents the accumulation of non-condensable gas. The non-condensable gas causes unfavorable problems such as waste of power, decrease refrigeration capacity and wear of refrigeration capacity. Therefore, when the non-condensable gas comes in, it should be purged as quickly as possible. This is a purpose of the DEC gas purger and the DEC's gas purger is the best choice.

GAS PURGER TYPE

GP70A NH3(Ammonia)

GP70B R12, R22, R502 and others

DEC's develop ements and improvements in the purger design and function have led to countless savings in energy, time and money.

DEC –ALUMINUM SUPER COOLING COIL®

ADVANTAGES OF INSTALLATION

■ REDUCE WEIGHT, INCREASE EFFICIENT

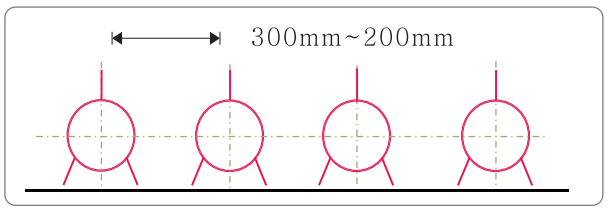
DEC aluminum alloy SUPER COOLING COIL® is 1/3 of weight compare to steel coil and just needs only 1/3 of length for the same effect of heat transference.

■ REDUCE INSTALLATION COST AND SAVE ENERGY

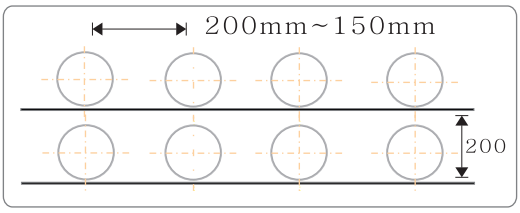
The aluminum SUPER COOLING COIL® mounted on the ceiling with only one step and it makes to save installation and energy costs.

■ MAINTENANCE AND SANITATION

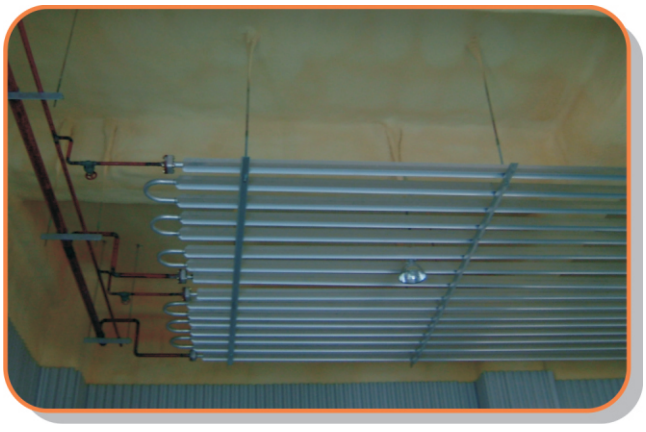
The aluminum SUPER COOLING COIL® is hygienic. It is the best choice for a foods storing.



A. ALUMINUM SUPER COOLING COIL
(single step mounted type)



B. Steel cooling coil
(double step mounted type)



A. ALUMINUM SUPER COOLING COIL

B. STEEL COOLING COIL

INTRODUCTION

DEC produces a block ice system for various purposes of cooling for beverage, fish, processing of poultry and a vast number of other applications where quick and efficient cooling is needed at low cost.

Block ice is formed in an ice can that is placed in a brine tank. The brine tank is manufactured with heavy steel plate, and placed in a concrete base.
The frozen block is moved by an overhead crane into a small thaw tank in order to take out the block from the walls of the can. At the end of the thaw period, the can is placed in a tip device allowing the ice blocks to slide out of the cans.

Filling Tank

Evaporator (Herringbone Coil)

Agitator

SPECIFICATION

* Number of cans are based on a continuous freezing cycle of 48 hours.

Detail \ Model		10T/24h	15T/24h	20T/24h	25T/24h	30T/24h	40T/24h	50T/24h	60T/24h
Compressor	Capacity kcal/h	64,400	99,750	121,500	162,000	187,600	237,800	2x162,000	2x187,600
	kw	74.9	116.0	141.3	188.4	218.1	276.5	2x188.4	2x218.1
Condenser	Capacity kcal/h	64,400	99,750	121,500	162,000	187,600	237,800	2x162,000	2x187,600
	kw	74.9	116.0	141.3	188.4	218.1	276.5	2x188.4	2x218.1
Receiver	liters	320	500	730	730	1,000	1,570	1,570	2,000
Evaporator	No.of units	1	1	1	1	1	1	2	2
	Length(m)	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
	Quantity	50	74	99	123	148	192	123	148
	Step	2	2	2	2	2	2	2	2
	Total length	275	275	275	275	275	275	275	275
Surge Drum	liters	100	140	100x2	140x2	140x2	200x2	250x2	300x2
Brine tank	Length(m)	9.6	10.9	13.75	17.5	16.4	18.1	22.2	25
	Width	5	6.5	6.5	6.5	7.85	9.35	9.35	10.2
	Height	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
	Ice can(135kg)	12x13=156	16x15=240	16x19=304	16x25=400	20x23=460	24x25=600	24x31=744	26x35=910
Agitators	Q.ty x kw	2 x 0.75	2 x 2.2	4 x 0.75	4 x 2.2	4 x 2.2	4 x 2.2	4 x 2.2	6 x 2.2

■ Technical specifications : Standard 135kg of ice cans, water temperature +25℃

*The above details are subject to change without prior notice according to product development.

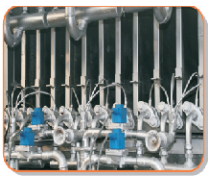
INTRODUCTION

STANDARD FEATURES

The unit makes plate shape ice with a thickness of 5~25mm. However, this might vary depending on the evaporating temperature and the running time. Plate ice is suitable for the preservation of fish, poultry and thermal energy storage. The unit meets the international hygiene standards.

- Various ice thickness
- Hot gas defrost for quick release and harvest of ice
- Double wall vertical aluminum evaporator for maximum efficiency and productivity
- Easy access, non-clogging water distribution system
- Easy operation : " Touch screen panel"

Plate ice available 5~25mm thickness



Touch screen & Vertical plate evaporator

SPECIFICATION

Detail \ Model		DH-13N	DH-16N	DH-22N	DH-27N	DH-33N
Capacity (ton/day)		10~13	13~16	17~22	22~27	26~33
Comp	Power (kw)	30	45	60	75	90
	RT	19.74	29.60	39.40	49.83	58.44
Condenser motor (kw)		0.75x3	0.75x5	0.75x6	0.75x6	0.75x6
Refrigerant liquid pump (kw)		0.75	1.5	1.5	1.5	2.2

STANDARD OPERATING CONDITIONS

Ice thickness : 5 ~ 25mm
Inlet water temperature : +15℃
Evaporating temperature : -15 ~ -20℃
Condensing temperature : +35℃
Ambient temperature : +32.2℃

*The above details are subject to change without prior notice according to product development.

INTRODUCTION

DEC STRONGACE VALVE® is produced under a strict quality control, and the design has been attached to such factors as easy installation and competitive prices.

STRONGACE VALVE®

- Stop valve (Globe and angle type)
- Check valve (Horizontal and vertical type)
- Check and stop valve (Angle type)
- Strainer
- Manual expansion / needle valve
- Safety valve
- Level gauge (With ball valves)
- Dry filter

STANDARD FEATURES

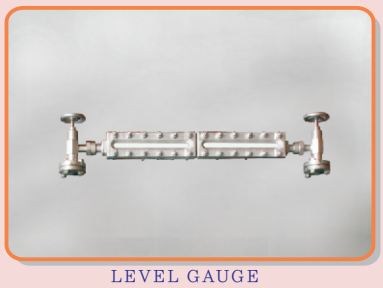
- Double "O"ring seal
- Directly welded to pipe line, no flange needed
- (Light weight and easy installation)
- Stainless steel stem (long serving life)
- Anti-rust base coat (green or silver)
- Aluminum handwheel(light weight)
- Design temperature : -80℃ ~ 150℃
- Test pressure : 4.5MPa
  KS, ISO 9001 and ISO 14001


STOP VALVE


STOP VALVE


CHECK VALVE


SAFETY VALVE


LEVEL GAUGE


CHECK & STOP VALVE

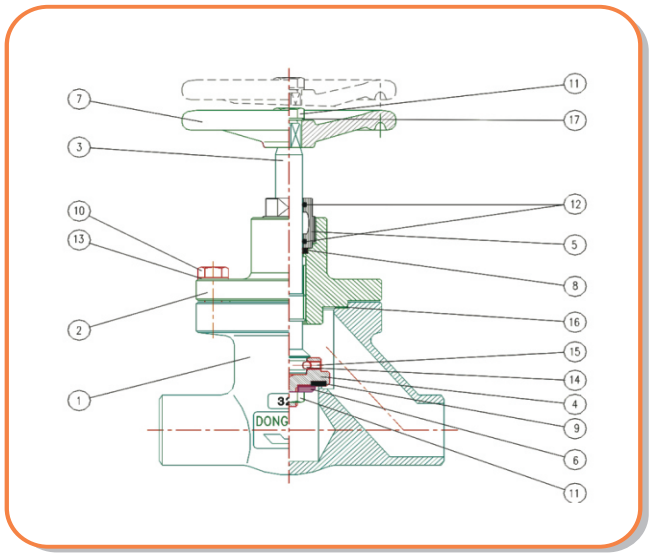

STRAINER


STRAINER


STRAINER

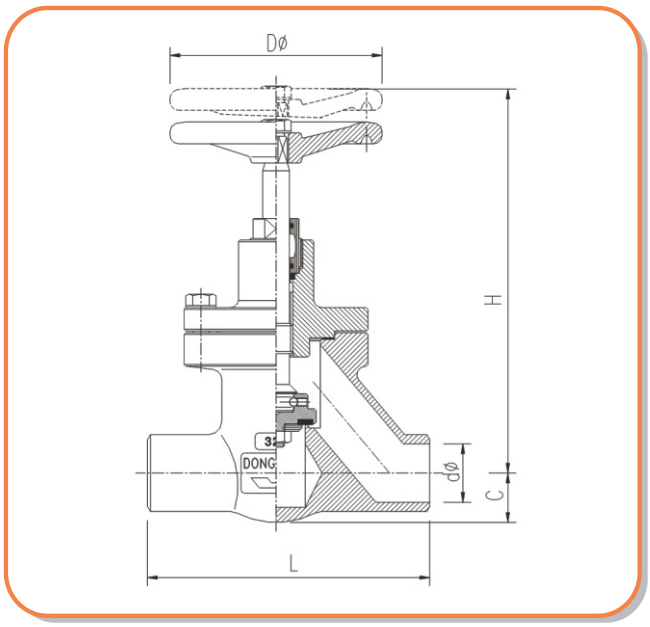
Stop valve should be installed in inlet and outlet lines to all condensers, vessels, evaporators and piping line which fluid or gas in the line can be isolated in case of leak, and facilitated to pump out for an evacuation. Weld-in-line stop valves are desirable for all line sizes.

- Soft seating surface for positive shut off
- Back seating to permit repacking the valve stem while in service
- Arrangement that allows packing to be tightened easily



Parts No.	DESCRIPTION	MATERIAL
1	BODY	SF34/SPPS380
2	BONNET	SF34/SM20
3	STEM	STS303
4	DISK	SM20C
5	STEM PLUG	STS303
6	SEAT WASHER	SM45C
7	HAND-WHEEL	AC 4B
8	QUARD-RING	HNBR
9	SEAT PACKING	TEFLON
10	HEX. BOLT	SCM435
11	HEX. NUT	SCM435
12	"O"RING	RUBBER
13	SPRING WASHER	SK5M
14	BALL	SUJ2
15	SET SCREW	SCM435
16	FLANGE GASKET	VALQUA
17	FLANGE PLAIN WASHER	SCP1

STOP VALVE GLOBE TYPE (10A ~ 32A)



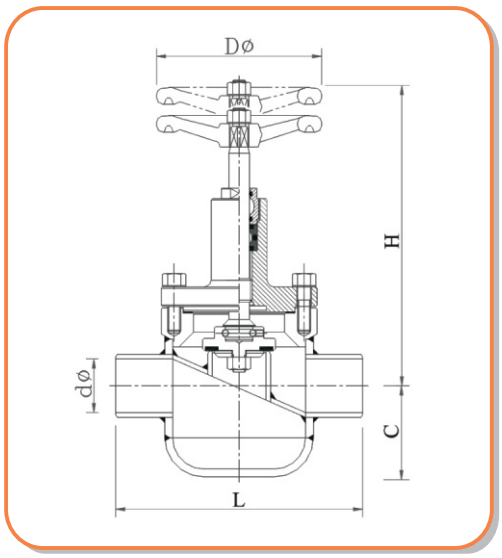
SIZE		L	H	C	D	d Φ	Weight (kg)
A(mm)	B(inch)						
10	3/8	85	139.5	8	60	12	1
15	1/2	115	152	25	88	16	2.8
20	3/4	115	152	25	88	20	2.6
25	1	160	185	27	100	27	4.5
32	1 1/4	169	212.5	29.5	127	35	6.9

- Body : Forging iron
- Stem : Stainless steel
- Handwheel : Aluminum alloy
- Suitable for R717, R 22 and other refrigerants

- Design temperture rating : -80℃~+150℃
- Maximum working pressure : 3MPa
- Design pressure : 3MPa
- PNE. test pressure : 4.5MPa
- KS, ISO9001, ISO14001

*The above details are subject to change without prior notice according to product development.

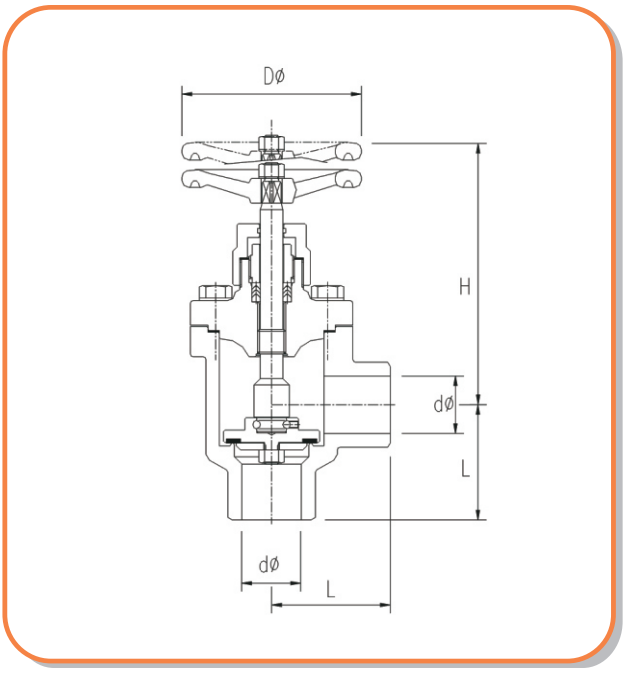
STOP VALVE GLOBE TYPE (40A ~ 350A)



SIZE		L	H	C	DΦ	dΦ	Weight (kg)
A(mm)	B(inch)						
40	1½	190	228.5	70	127	41.2	7
50	2	210	217	80	127	52.7	10
65	2½	240	294.5	95	156	65.9	16
80	3	300	304.5	96	156	78.1	22
100	4	350	354	108	195	102.3	29
125	5	400	384	136	195	126.6	38
150	6	460	467	170	250	151	69.8
200	8	540	536.5	230	250	199.9	76.8
250	10	640	622	274	250	248.8	118.5
300	12	720	670	320	250	297.9	143
350	14	800	668.4	347	250	333.4	145

- Body : SPPS 380
- Stem : Stainless steel
- Handwheel : Aluminum alloy

STOP VALVE ANGLE TYPE (15A ~ 300A)



SIZE		H	L	DΦ	dΦ	Weight (kg)
A(mm)	B(inch)					
15	1/2	131	45	60	16	1.3
20	3/4	131	45	60	19	1.2
25	1	149	50	88	26	2.1
32	1¼	184	70	127	35	4.3
40	1½	189	84	127	41.2	7.5
50	2	189	84	127	52.7	7.7
65	2½	194	140	156	65.9	12
80	3	204.5	150	156	78.1	16
100	4	247	185	195	102.3	24
125	5	257	220	195	126.6	30
150	6	294	260	250	151	53
200	8	354.5	300	250	199.9	70
250	10	445	360	250	248.8	110
300	12	500	400	250	297.9	130

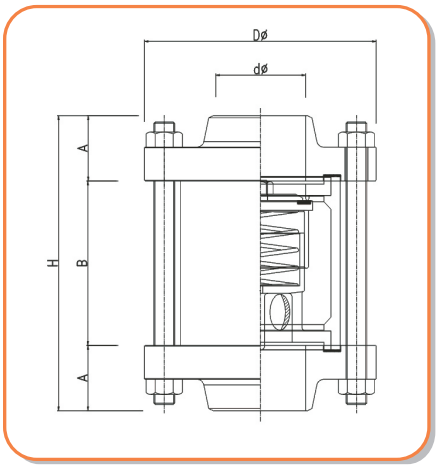
- Body : Forging iron(15A~32A)
  SPPS 380(40A~300A)
- Stem : Stainless steel
- Handwheel : Aluminum alloy

- Design temperture rating : −80℃~+150℃
- Maximum working pressure : 3MPa
- Design pressure : 3MPa
- PNE. Test pressure : 4.5MPa

*The above details are subject to change without prior notice according to product development.

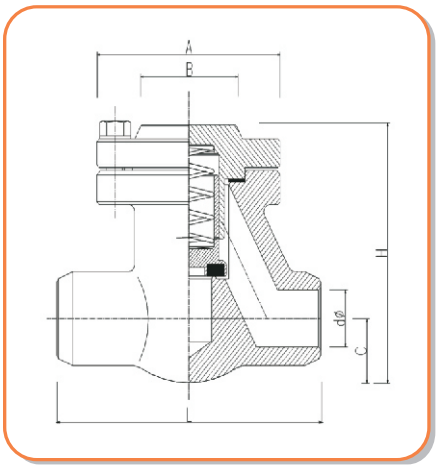
Check valve prevents reversal of flow and control the direction of flow rather than stopping or starting flow.
In spring –loaded check valve's positively and rapidly closes a guided floating disk.

CHECK VALVE VERTICAL TYPE (15A ~ 100A)

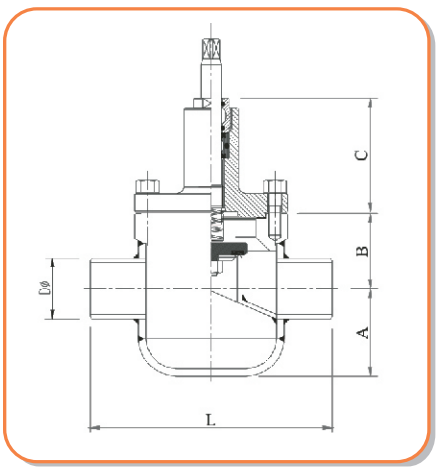


SIZE		A	B	DΦ	dΦ	H	Weight (kg)
A(mm)	B(inch)						
15	1/2	34	54	100	16	122	2
20	3/4	34	59	100	21.4	127	2
25	1	37	64	125	27.2	138	2.5
32	1 1/4	43	85	135	35.5	171	3.3
40	1 1/2	43	91	140	41.2	177	7.1
50	2	45	105	155	52.7	195	8.2
65	2 1/2	45	113	175	65.9	203	8.8
80	3	52	131	200	78.1	235	13
100	4	52	179	225	102.3	283	20

CHECK VALVE HORIZONTAL TYPE



SIZE		A	B	H	dΦ	L	C	Weight (kg)
A(mm)	B(inch)							
10	3/8	43.8		63.5	12.7	85	9	1
15	1/2	80	49	91	16.1	115	22.5	1.8
20	3/4	80	49	91	21.4	115	22.5	2.4
25	1	105	60	109	24.5	161	24.5	3.4
32	1 1/4	110	65	150	35.5	169	29.5	6.7

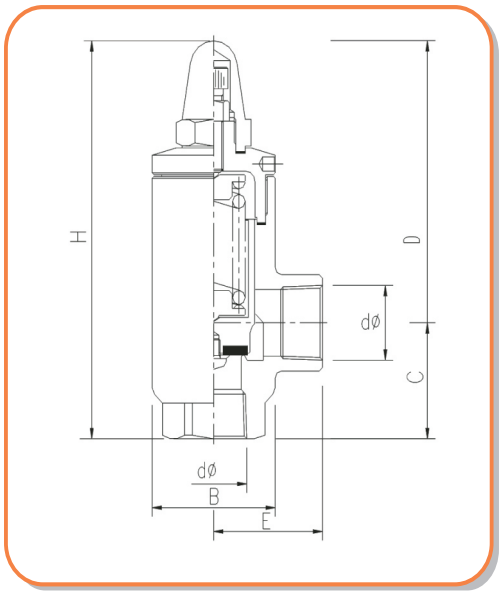


- Body : Forging iron(10A~32A)
  SPPS 380(40A~100A)
- Stem : Stainless steel
- Handwheel : Aluminum alloy

SIZE		A	B	C	DΦ	H	L	Weight (kg)
A(mm)	B(inch)							
40	1 1/2	70	74	145	48.6	289	190	8.2
50	2	80	74	136	60.5	290	210	8.2
65	2 1/2	95	80	175	76.3	350	240	13
80	3	96	86	175	89.1	360	300	18
100	4	108	107	185	114.3	410	350	24.9

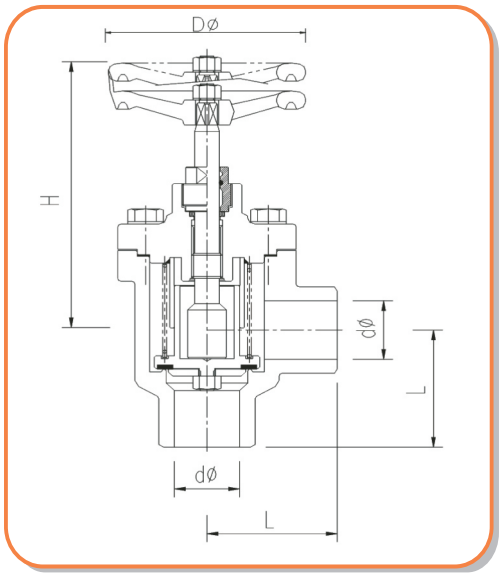
*The above details are subject to change without prior notice according to product development.

●SAFETY VALVE (15A~80A)



SIZE		B	C	dΦ	D	E	H	Weight (kg)
A(mm)	B(inch)							
15	1/2	52	55	PT1/2	138	53	193	2.5
20	3/4	52	55	PT3/4	138	53	193	2.6
25	1	60	60	PT1	146	62	206	4
32	1 1/4	65	65	PT1/4	158	69	223	5.5
40	1 1/2	68	70	PT1 1/2	164	73	234	6.2
50	2	80	139	Φ62	211	134	350	21
65	2 1/2	96	160	Φ78	233	150	393	30
80	3	113	189	Φ80	229	170	481	42

●CHECK AND STOP VALVE (15A ~ 300A)

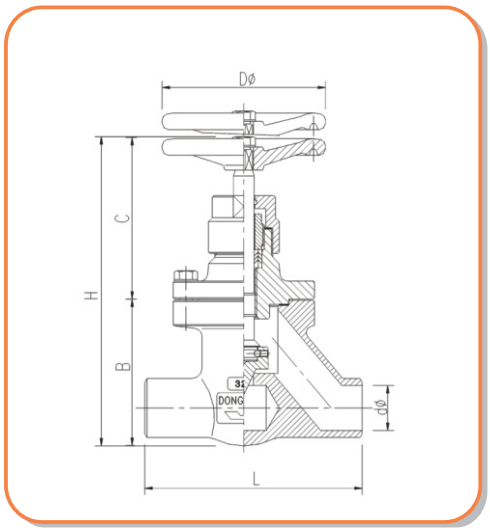


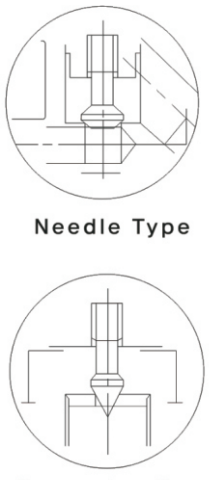
SIZE		H	L	DΦ	dΦ	Weight (kg)
A(mm)	B(inch)					
15	1/2	115	45	60	16.1	1.3
20	3/4	115	45	60	21.4	1.5
25	1	130	50	88	27.2	2.1
32	1 1/4	162	70	127	35.5	4.3
40	1 1/2	171	84	127	41.2	7.5
50	2	171	84	127	52.7	7.7
65	2 1/2	212	140	156	65.9	12
80	3	217	150	156	78	16
100	4	248	210	195	102.3	24
125	5	260	220	195	126.6	30
150	6	285	260	250	151	53
200	8	336	300	250	199.9	70
250	10	372	360	250	248.8	110
300	12	344	400	250	297.9	130

■ Check and stop valves can be operated as both a check valve and a stop valve. The valve stem does not connect to the guided seat plug, but it is allowing the plug to operate as a conventional lift check valve when the stem is in the raised position. Spinning the stem down can limit the valve opening or close the valve.

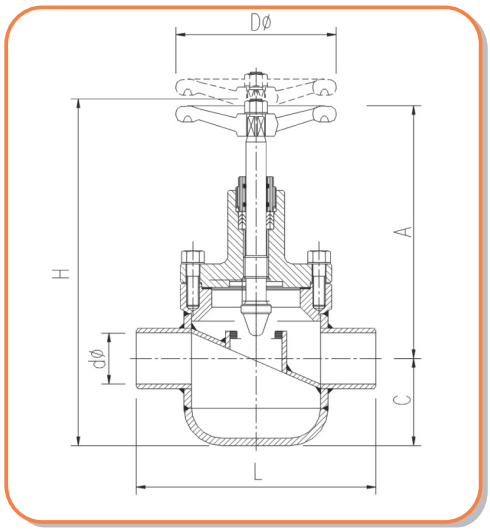
*The above details are subject to change without prior notice according to product development.

EXPANSION(NEEDLE) VALVE (10A ~ 32A)





EXPANSION(NEEDLE) VALVE (40A ~ 80A)

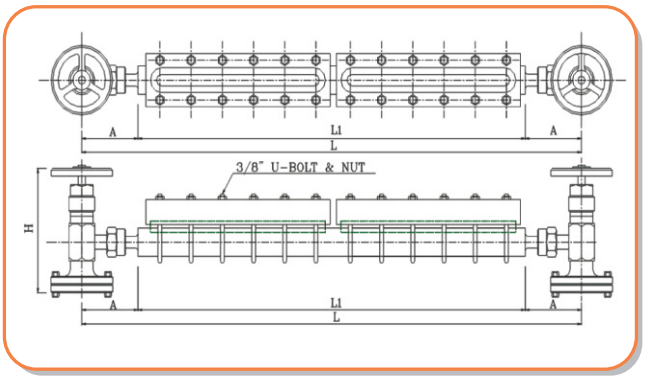


SIZE		L	B	C	d Φ	D Φ	H	Weight (kg)
A(mm)	B(inch)							
10	3/8	85	47	91	12.7	60	138	1
15	1/2	115	74.5	106	16.1	88	180.5	1.5
20	3/4	115	94.5	106	21.4	88	200.5	2.5
25	1	160	95	108	27.2	100	203	4.3
32	1 1/4	169	114	127	35.5	127	241	6.1

SIZE		L	A	C	d Φ	D Φ	H	Weight (kg)
A(mm)	B(inch)							
40	1 1/2	190	213	70	41.2	127	283	7.2
50	2	210	222	80	52.7	127	302	8
65	2 1/2	267	238	95	65.9	156	333	16
80	3	277	300	96	78.1	156	396	22

■ Body : Forged steel (10A~32A), SPPS370(40A~80A)
■ Stem : Stainless steel
■ Handwheel : Aluminum alloy

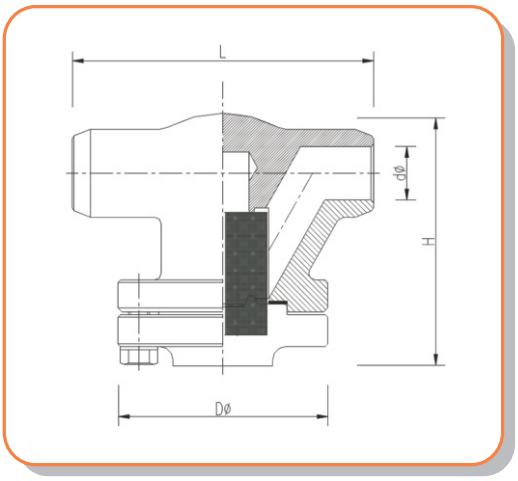
LEVEL GAUGE & BALL VALVE (300mm ~ 1500mm)



SIZE(mm)	L	L1	A	H	Weight (kg)
300	510	320	95	172	7.2
600	815	625	95	172	14.5
900	1120	930	95	172	21.5
1200	1425	1235	95	172	32
1500	1725	1535	95	172	43.5

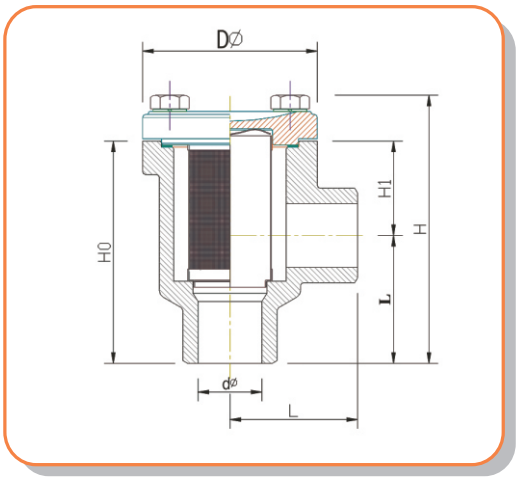
*The above details are subject to change without prior notice according to product development.

STRAINER(10A~32A)



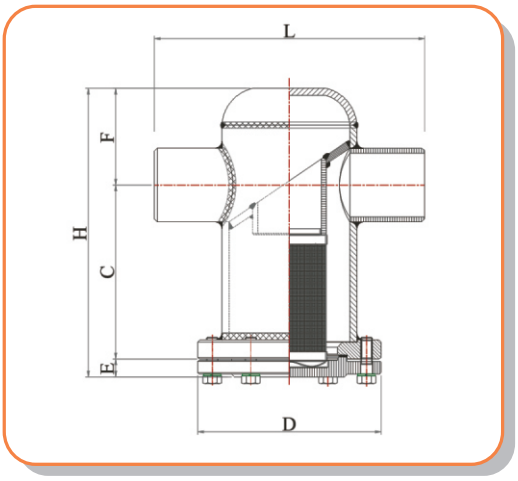
SIZE		L	H	DΦ	dΦ	Weight (kg)
A(mm)	B(inch)					
10	3/8	85	60.5	42	12.7	1
15	1/2	115	99	80	16.1	1.8
20	3/4	115	99	80	21.4	1.8
25	1	160	122	105	27.2	3.2
32	1 1/4	169	166	110	35.5	4.7

STRAINER (40A ~ 50A)



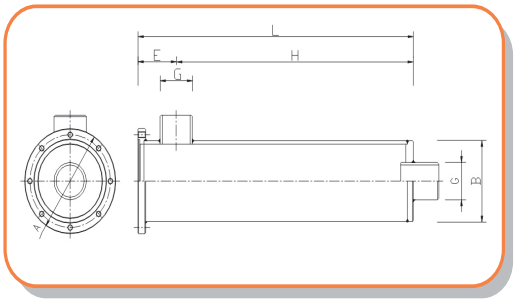
SIZE		H	H0	H1	L	dΦ	DΦ	Weight (kg)
A(mm)	B(inch)							
32	1 1/4	147	122	52	70	35	100	6.8
40	1 1/2	176	146	62	84	41	115	7.2
50	2	176	146	62	84	52	115	7.3

STRAINER (65A ~ 100A)



SIZE		H	C	D	E	F	L	Weight (kg)
A(mm)	B(inch)							
65	2 1/2	337	223	145	18	88	300	13
80	3	362	243	170	18	102.5	300	16
100	4	376	255	220	18	105	385	28

DRY FILTER (20A ~ 100A)



SIZE		A	B	E	G	H	L	Weight (kg)
A(mm)	B(inch)							
20	3/4	150	115	62	27.2	338	400	10
25	1	150	115	67	34	383	450	12
32	1 1/4	185	143	73	42.7	447	520	16
40	1 1/2	185	143	73	48.6	447	520	17
50	2	185	143	78	60.5	522	600	22.5
65	2 1/2	220	172	83	76.3	567	650	32
80	3	220	172	93	89.1	617	700	34
100	4	270	220	115	114.3	645	750	40

*The above details are subject to change without prior notice according to product development.

Surely
ESTABLISHED 1910

HASEGAWA COMPRESSOR UNIT

HASEGAWA refrigeration compressors have achieved world wide recognition for their quality, reliability and efficiency.

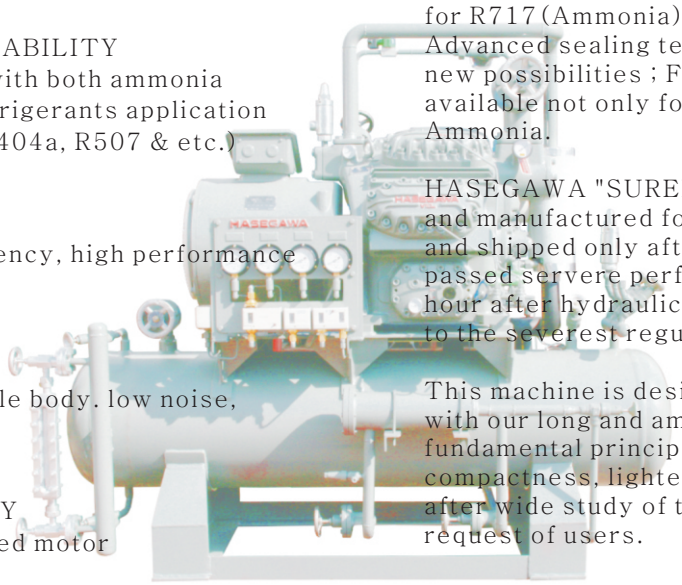
STANDARD FEATURE

REFRIGERANT AVAILABILITY
Highest performance with both ammonia and HCFC22. Other refrigerants application is available.(R134a, R404a, R507 & etc.)

ENERGY SAVING
High speed, high efficiency, high performance from simple machine.

LOW NOISE
Multi-cylinder in simple body. low noise, less vibration

MOTOR AVAILABILITY
Franged motor or canned motor

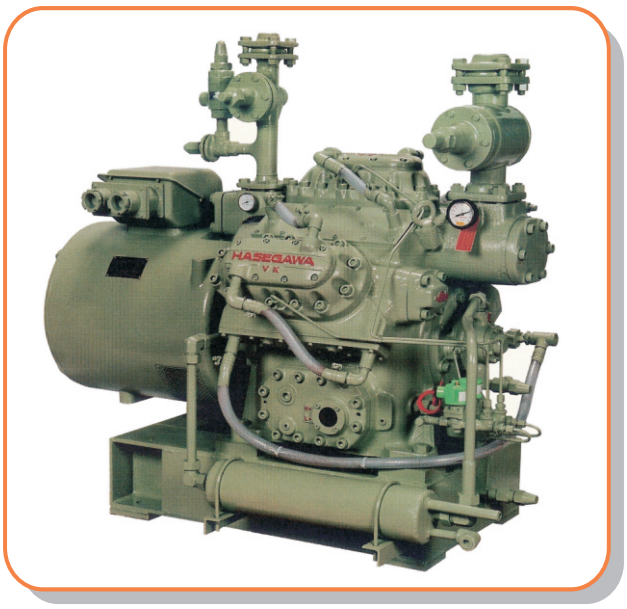


All HASEGAWA compressors are available for R717(Ammonia) and R22(HCFC22). Advanced sealing technology eased to get new possibilities ; Flanged type motor is available not only for HCFC22 but also for Ammonia.

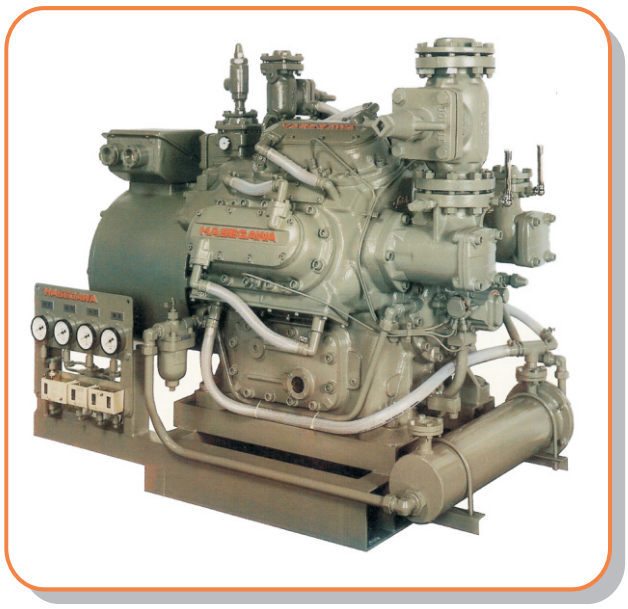
HASEGAWA "SURELY" compressor is designed and manufactured for all common refrigerant and shipped only after the compressor has passed servere performance test for long hour after hydraulic and leakage test according to the severest regulations.

This machine is designed and manufactured with our long and ample experiences on the fundamental principle of larger capacity, compactness, lighter weight and easier handling after wide study of the esteemed opinion and request of users.

HVU - VZ62RMT60L



HVU - VK6RMT37



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MODEL VZ · VZL COMPRESSOR SPECIFICATIONS

FLANGED MOTOR COMPRESSOR

Comperssor Unit Model	Refrigerant	Single-stage compressor			Two-stage compressor		
	R717 (AMMONIA)	VZ6AMT	VZ8AMT	VZL8AMT	VZ42AMT	VZ62AMT	VZL62AMT
	R22 (HCFC22)	VZ6RMT	VZ8RMT	VZL8RMT	VZ42RMT	VZ62RMT	VZL62RMT

DIRECT COUPLING COMPRESSOR

Comperssor Unit Model	Refrigerant	Single-stage compressor			Two-stage compressor		
	R717 (AMMONIA)	VZ6ADT	VZ8ADT	VZL8ADT	VZ42ADT	VZ62ADT	VZL62ADT
	R22 (HCFC22)	VZ6RDT	VZ8RDT	VZL8RDT	VZ42RDT	VZ62RDT	VZL62RDT

V-BELT DRIVE COMPRESSOR

Comperssor Unit Model	Refrigerant	Single-stage compressor			Two-stage compressor		
	R717 (AMMONIA)	VZ6AVT	VZ8AVT	VZL8AVT	VZ42AVT	VZ62AVT	VZL62AVT
	R22 (HCFC22)	VZ6RVT	VZ8RVT	VZL8RVT	VZ42RVT	VZ62RVT	VZL62RVT

SPECIFICATION

Comperssor Unit Model		VZ 6	VZ 8	VZL 4	VZL8	VZ 42	VZ 62	VZL31	VZL62
Number of Cylinder		6	8	8	8	4+2	6+2	3+1	6+2
Capacity Step Control (cylinder), (low press. side)		6-4-2	8-6-4	8-6-4	8-6-4	4-2	6-4-2	3-1	6-4-2
Cylinder Bore (mm)		132	132	132	132	132	132	132	132
Piston Stroke (mm)		106	106	132	132	106	106	132	132
Speed (RPM)		980/1170	980/1170	980/1170	980/1170	980/1170	980/1170	980/1170	980/1170
Displacement (m^3/hr)		511.77/610.99	682.36/814.65	849.73/1014.47	849.73/1014.47	511.77/610.99	682.36/814.65	424.86/507.24	849.73/1014.47
Ref. Capacity (kw)	R717	216.98/259.07	289.30/345.35	360/430	360.23/430.12	79.53/95.70	110.70/132.21	68/82	137.91/164.65
	R22	205.81/245.70	274.42/327.67	341/408	341.74/408.02	87.09/103.95	117.44/140.23	73/87	146.28/174.65
Connections (mm)	Suction	114.3	114.3	114.3	114.3	89.1	114.3	89.1	114.3
	Middle Press.	-	-	-	-	60.5, 60.5	76.3, 76.3	60.5,60.5	76.3, 76.3
	Discharge	76.3	89.1	89.1	89.1	48.6	60.5	48.6	60.5
Initial Charge, Oil (ℓ)		30	32	32	32	30	32	26	32

- Refrigeration capacity at condensing temperature +40℃, evaporative temperature −15℃ (Single-stage compressor)
- Refrigeration capacity at condensing temperature +40℃, evaporative temperature −35℃ (Two-stage compressor)

*The above details are subject to change without prior notice according to product development.

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MODEL VK · VKL COMPRESSOR SPECIFICATIONS

VK COMPRESSOR

Comperssor Unit Model	Refrigerant	Single-stage compressor			Two-stage compressor		
	R717 (AMMONIA)	VK4AMS	VK6AMS	VK8AMS	VK31AMS	VK42AMS	VK62AMS
	R22 (HCFC22)	VK4RMS	VK6RMS	VK8RMS	VK31RMS	VK42RMS	VK62RMS

Comperssor Unit Model		VK 4	VK 6	VK 8	VK 31	VK 42	VK 62
Number of Cylinder		4	6	8	3+1	4+2	6+2
Capacity Step Control (cylinder), (low press. side)		4-2	6-4-2	8-6-4	3-1	4-2	6-4-2
Cylinder Bore (mm)		85	85	85	85	85	85
Piston Stroke (mm)		70	70	70	70	70	70
Speed (RPM)		1450/1750	1450/1750	1450/1750	1450/1750	1450/1750	1450/1750
Displacement (㎥/hr)		138.23/166.83	207.35/250.25	276.46/333.66	138.23/166.83	207.35/250.25	276.46/333.66
Ref. Capacity (kw)	R717	58.60/70.70	87.91/106.05	117.21/141.51	22.44/27.09	32.21/38.84	44.88/54.19
	R22	55.58/67.09	83.37/100.70	111.16/134.19	23.84/28.72	35.23/42.56	47.46/57.44
Connections (mm)	Suction	76.3	76.3	89.1	76.3	76.3	89.1
	Middle Press.	-	-	-	42.7, 42.7	42.7, 42.7	48.6, 48.6
	Discharge	48.6	48.6	60.5	34.0	34.0	42.7
Initial Charge, Oil (ℓ)		8.5	8.5	9.0	8.5	8.5	9.0

VKL COMPRESSOR

Comperssor Unit Model	Refrigerant	Single-stage compressor			Two-stage compressor		
	R717 (AMMONIA)	VK4AMS	VK6AMS	VK8AMS	VK31AMS	VK42AMS	VK62AMS
	R22 (HCFC22)	VK4RMS	VK6RMS	VK8RMS	VK31RMS	VK42RMS	VK62RMS

Comperssor Unit Model		VK 4	VK 6	VK 8	VK 31	VK 42	VK 62
Number of Cylinder		4	6	8	3+1	4+2	6+2
Capacity Step Control (cylinder), (low press. side)		4-2	6-4-2	8-6-4	3-1	4-2	6-4-2
Cylinder Bore (mm)		85	85	85	85	85	85
Piston Stroke (mm)		85	85	85	85	85	85
Speed (RPM)		1450/1750	1450/1750	1450/1750	1450/1750	1450/1750	1450/1750
Displacement (㎥/hr)		167.85/202.58	251.78/303.87	335.70/405.16	167.85/202.58	251.78/303.87	335.70/405.16
Ref. Capacity (kw)	R717	71.16/85.93	106.74/128.84	142.33/171.74	27.21/32.91	39.307/47.21	54.53/65.70
	R22	67.56/81.51	101.28/122.21	135.00/162.91	28.84/34.88	42.91/51.74	57.79/69.77
Connections (mm)	Suction	76.3	76.3	89.1	76.3	76.3	89.1
	Middle Press.	-	-	-	42.7, 42.7	42.7, 42.7	48.6, 48.6
	Discharge	48.6	48.6	60.5	34.0	34.0	42.7
Initial Charge, Oil (ℓ)		8.5	8.5	9.0	8.5	8.5	9.0

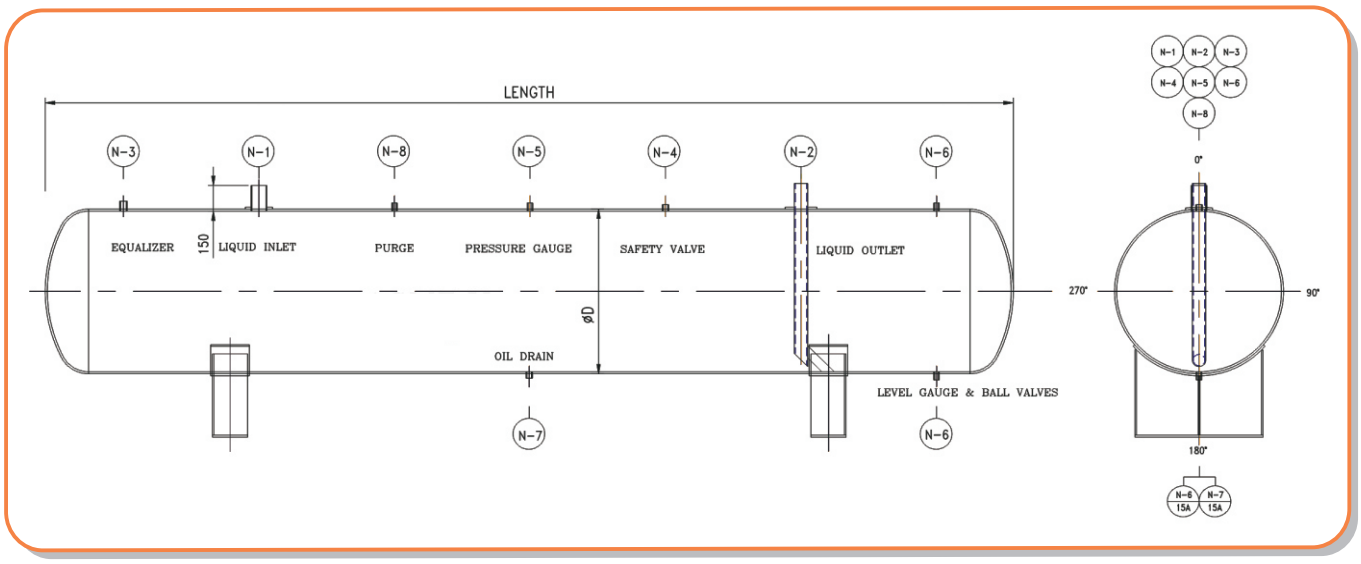
■ Refrigeration capacity at condensing temperature +40℃, evaporative temperature -15℃ (Single-stage compressor)
■ Refrigeration capacity at condensing temperature +40℃, evaporative temperature -35℃ (Two -stage compressor)

*The above details are subject to change without prior notice according to product development.

DEC-PRESSURE VESSELS

All vessels design and construction are in accordance with latest version of the high pressure gas management law by KGS and ASME code. In most industrial refrigeration systems, individual pressure vessels often require custom design features. DEC designs and manufactures specific pressure vessels to meet certain customer's specific requirements.

HIGH PRESSURE RECEIVER(Horizontal Type)

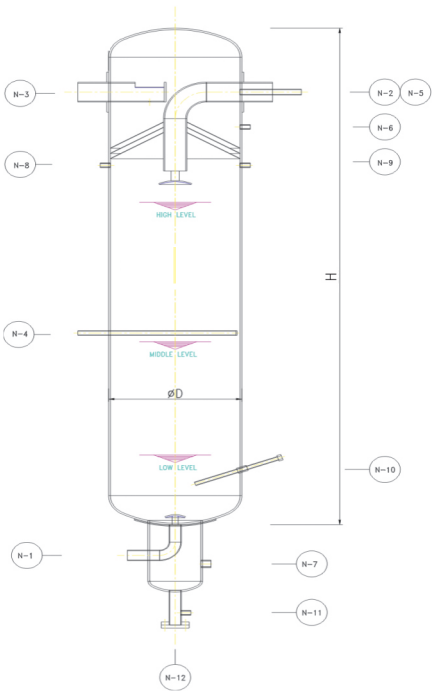


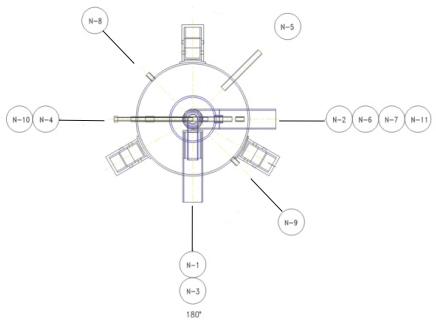
SPECIFICATION

MODEL	D(Ø)	LENGTH(mm)	N-1 (A)	N-2 (A)	N-3 (A)	N-4 (A)	N-5 (A)	N-8 (A)
DYHR01	318.5	2,400	25	20	15	10	10	15
DYHR02	406.4	2,500	25	20	15	15	10	15
DYHR03	457.2	2,500	25	20	15	15	10	15
DYHR04	508.0	3,000	32	25	25	15	15	20
DYHR05	508.0	3,600	40	25	25	15	15	20
DYHR06	558.8	3,000	50	32	25	15	15	20
DYHR07	609.6	3,200	50	32	25	15	15	20
DYHR08	650.0	3,300	50	32	25	15	15	20
DYHR09	700.0	3,500	50	32	25	15	15	20
DYHR10	776.0	4,000	50	32	25	20	15	20
DYHR11	860.0	4,000	65	40	32	20	15	20
DYHR12	970.0	5,000	65	40	32	20	15	20
DYHR13	1000.0	5,000	80	40	32	20	15	25
DYHR14	1100.0	4,000	80	65	32	20	15	25
DYHR15	1100.0	5,200	80	65	32	20	15	32
DYHR16	1200.0	5,000	100	65	32	20	15	32
DYHR17	1250.0	5,580	125	65	32	25	15	32
DYHR18	1500.0	5,000	150	80	32	32	15	40

* Other requirement can be consulted.

● LOW PRESSURE RECEIVER(Horizontal Type)





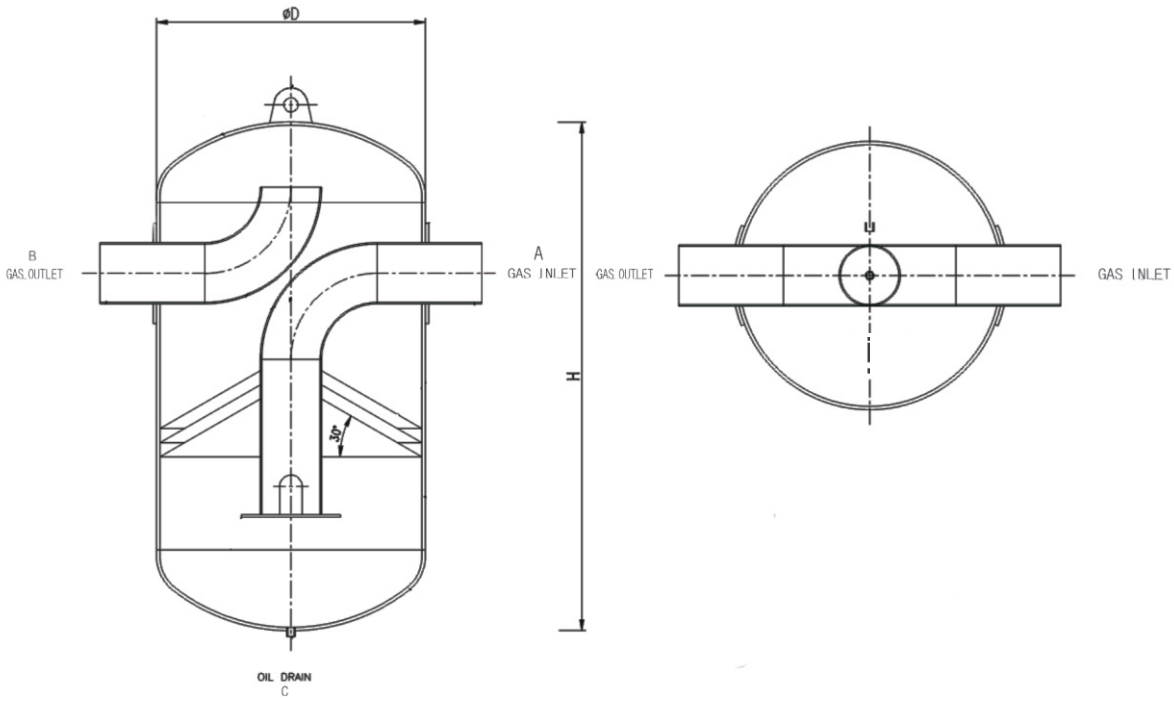
NOZZLE LIST			
NO.	NAME		
N-1	LIQUID OUTLET	N-7	LEVEL HEADER (FLOAT SWITCH)
N-2	GAS INLET	N-8	DEFROST GAS INLET
N-3	GAS OUTLET	N-9	RELIEF
N-4	LIQUID SUPPLY	N-10	THERMO-COUPLE WELL
N-5	HEADER FOR SAFETY VALVE & GAUGE	N-11	OIL DRAIN
N-6	LEVEL HEADER (FLOAT SWITCH)	N-12	SCALE DRAIN

● SPECIFICATION

MODEL	D(Φ)	H(mm)	N-1 (A)	N-2 (A)	N-3 (A)	N-4 (A)	N-5 (A)	N-6 (A)	N-7 (A)	N-8 (A)	N-9 (A)	N-10 (A)	N-11 (A)	N-12 (A)
DYLR01	406.4	1,200	40	80	80	20	25	20	25	15	15	15	15	40
DYLR02	508.0	2,400	50	100	100	20	25	20	25	15	15	15	15	50
DYLR03	558.8	2,700	50	100	100	20	25	20	25	15	15	15	15	50
DYLR04	609.6	1,800	50	100	100	20	25	20	25	15	15	15	15	50
DYLR05	650.0	2,850	50	100	100	20	25	20	25	15	15	15	15	50
DYLR06	700.0	2,380	80	100	100	25	25	25	32	15	20	15	15	50
DYLR07	800.0	3,100	80	100	100	25	25	25	32	15	20	15	20	50
DYLR08	860.0	3,300	80	100	100	25	25	25	32	15	20	15	20	50
DYLR09	914.4	2,200	80	125	125	25	25	25	32	15	20	15	20	50
DYLR10	1000.0	3,010	80	125	125	25	25	32	32	15	20	15	20	50
DYLR11	1100.0	3,030	125	200	200	32	32	25	32	15	20	15	20	50
DYLR12	1200.0	3,080	125	200	200	40	32	25	32	15	20	15	20	50
DYLR13	1300.0	3,500	150	200	200	50	32	32	32	15	20	15	25	50
DYLR14	1400.0	3,300	150	200	200	50	25	25	32	15	20	15	25	65

* Other requirement can be consulted.

OIL SEPARATOR (Vertical Type)

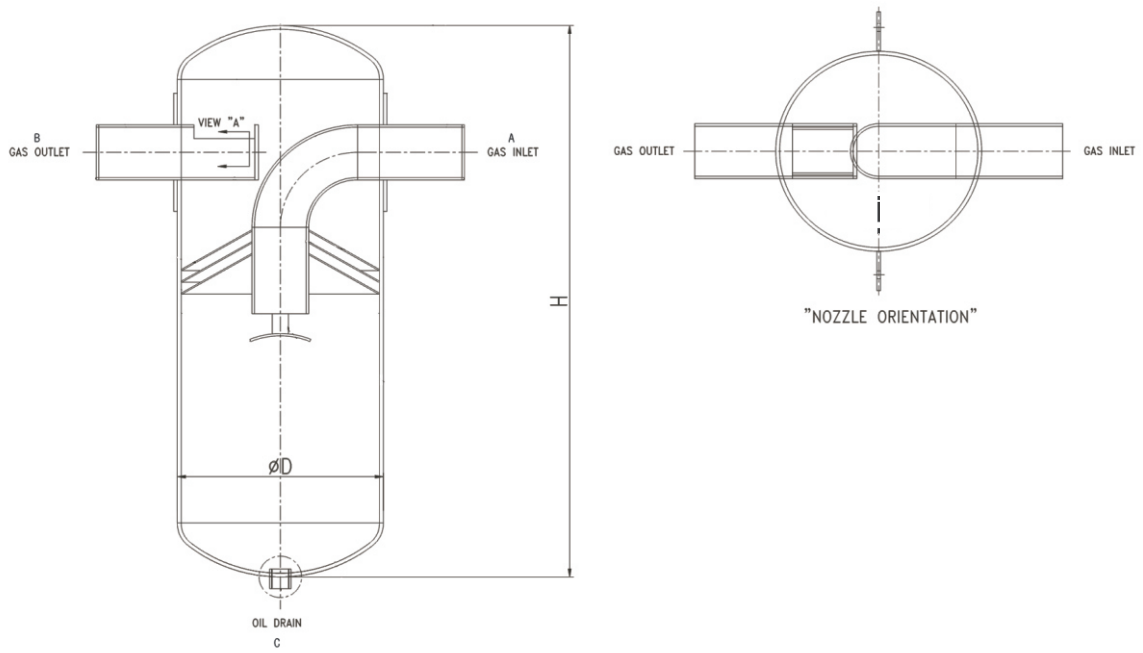


SPECIFICATION

MODEL	D(Φ)	H(mm)	NOZZLE In(A)	NOZZLE Out(B)	NOZZLE Drain(C)	Thickness(mm) & Material Shell		Thickness(mm) & Material Head	
DYOS01	216.3	570	32	32	15	8.2	SPPS380#40	8.2	SM400B
DYOS02	267.4	730	40	40	15	9.3	SPPS380#40	9.3	SM400B
DYOS03	318.5	900	50	50	15	10.3	SPPS380#40	10.3	SM400B
DYOS04	355.6	1000	65	65	15	9.5	SPPS380#30	9.5	SM400B
DYOS05	406.4	1150	80	80	15	9.5	SPPS380#30	9.5	SM400B
DYOS06	457.2	1350	90	90	15	11.1	SPPS380#30	9.0/12.0	SM490B
DYOS07	508.0	1400	90	90	15	9.5	SPPS380#20	9.0/12.0	SM490B
DYOS08	555.8	1400	100	100	15	9.5	SPPS380#20	9.0/12.0	SM490B
DYOS09	609.6	1470	100	100	15	9.5	SPPS380#20	9.0/12.0	SM490B
DYOS10	660.4	1590	125	125	15	12.7	SPPS380#20	9.0/12.0	SM490B
DYOS11	711.2	1600	125	125	15	9.0	SM490B	9.0/12.0	SM490B
DYOS12	762.0	1650	125	125	15	9.0	SM490B	9.0/12.0	SM490B
DYOS13	812.8	1670	150	150	15	12.0	SM490B	12.0	SM490B
DYOS14	914.4	1730	150	150	15	12.0	SM490B	12.0	SM490B
DYOS15	950.0	1800	150	150	15	12.0	SM490B	12.0	SM490B
DYOS16	1016.0	2080	150	150	15	12.0	SM490B	12.0	SM490B

* Other requirement can be consulted.

ACCUMULATOR (Vertical Type)



SPECIFICATION

MODEL	D(Ø)	H(mm)	NOZZLE			Thickness(mm) & Material		
			In(A)	Out(B)	Drain(C)	Shell		Head
DYAC01	216.3	570	32	32	15	8.2	SPPS380#40	8.2	SM400B
DYAC02	267.4	750	40	40	15	9.3	SPPS380#40	9.3	SM400B
DYAC03	318.5	900	50	50	15	10.3	SPPS380#40	10.3	SM400B
DYAC04	355.6	1050	65	65	15	9.5	SPPS380#30	9.5	SM400B
DYAC05	406.4	1200	80	80	15	9.5	SPPS380#30	9.5	SM400B
DYAC06	457.2	1350	90	90	15	11.1	SPPS380#30	9.0/12.0	SM490B
DYAC07	508.0	1500	90	90	15	9.5	SPPS380#20	9.0/12.0	SM490B
DYAC08	555.8	1500	100	100	15	9.5	SPPS380#20	9.0/12.0	SM490B
DYAC09	609.6	1500	100	100	20	9.5	SPPS380#20	9.0/12.0	SM490B
DYAC10	660.4	1800	125	125	20	12.7	SPPS380#20	9.0/12.0	SM490B
DYAC11	711.2	1800	125	125	20	9.0	SM490B	9.0/12.0	SM490B
DYAC12	762.0	1800	125	125	20	9.0	SM490B	9.0/12.0	SM490B
DYAC13	812.8	2000	150	150	20	12.0	SM490B	12.0	SM490B
DYAC14	980.0	2200	150	150	20	12.0	SM490B	12.0	SM490B
DYAC15	980.0	2200	150	150	20	12.0	SM490B	12.0	SM490B
DYAC16	1250.0	3000	150	150	25	12.0	SM490B	12.0	SM490B

* Other requirement can be consulted.

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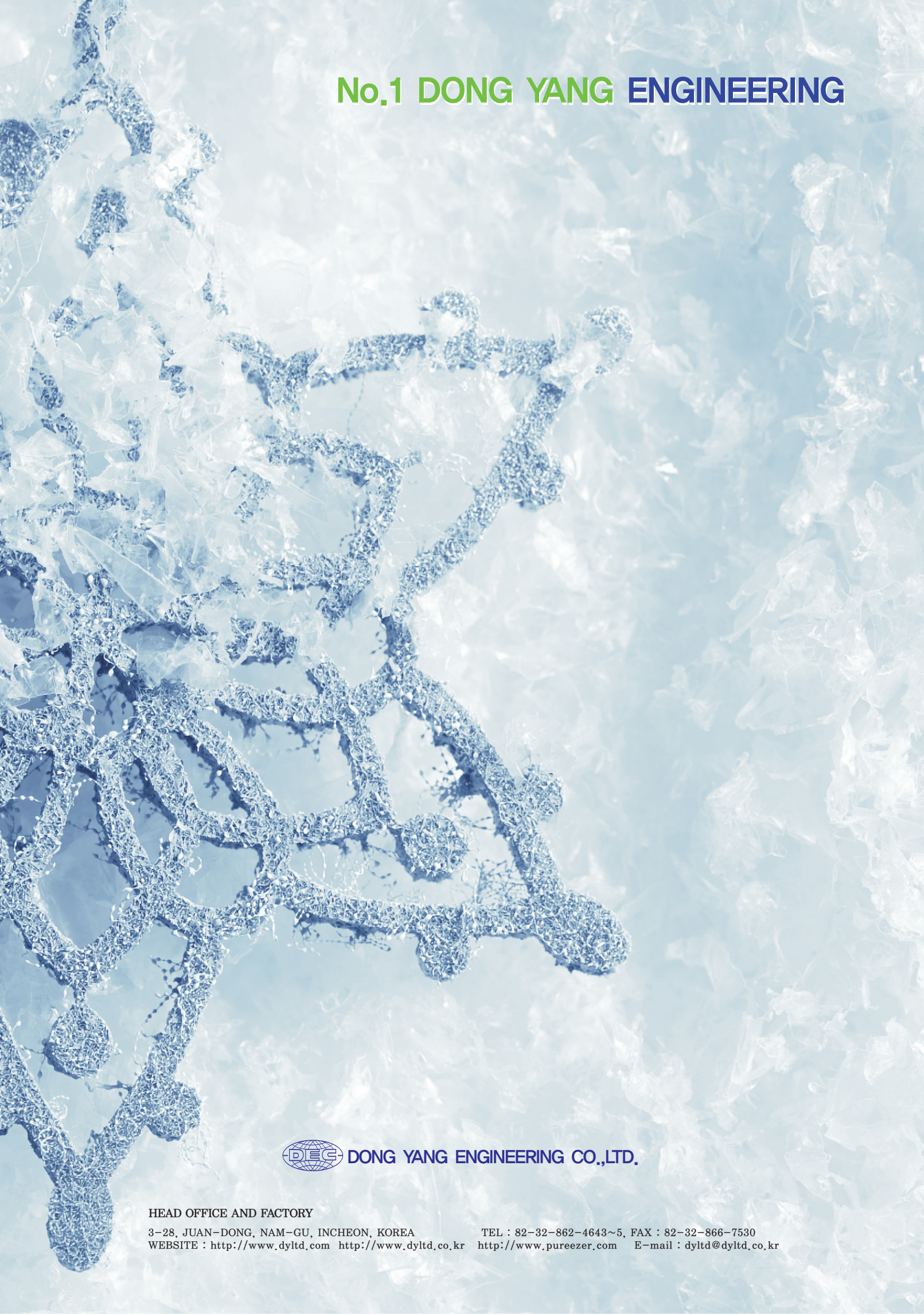

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