LAMPIRAN

Lampiran 1 Ukuran dan jenis-jenis container

Container Sizes

These details are for guidance only and do not guarantee availability of any type of container for any particular route. Although the dimensions are representative of the international standards, there can be variations.

Please check with us for size and availability before making any crucial decisions

Dry containers

Dry containers come in several sizes and designs:

- 20' with a payload up to 28.3 metric tons
- 40' - both 8'6" and 9'6" high cube - with a payload up to 30.4 metric tons
- 45' - 9'6" high cube - with a total capacity of 86 cubic metres

Please note there may be slight size variations for some containers, as well as limitations regarding acceptance in certain locations.

Special features of dry containers

- Hangar beams which allow the transport of garments on hangars without futher packing
- An extra high payload and extra door-width versions
- Bull rings and lashing bars to give your cargo added security
- Ventilated containers for crops, such as coffee and cocoa

Dry / Steel		Door openings (mm)		Internal dimensions (mm)			Weight (kg)			Volume (m3)
Type	Size	Width	Height	Length	Width	Height to load line	Max. Gross	Tare	Max. Payload	Capacity to load line
20" std	20' x 8' x 8'6"	2,340	2,274	5,896	2,350	2,385	27,000	2,150	24,850	33
40" std	40' x 8' x 8'6"	2,339	2,274	12,035	2,350	2,393	32,500	3,700	28,800	67
40" high	40' x 8' x 9'6"	2,340	2,577	12,035	2,350	2,697	34,000	3,800	30,200	76
45" high	45' x 8' x 9'6"	2,340	2,585	13,556	2,352	2,697	32,500	4,800	27,820	86

Dry / Aluminium		Door openings (mm)		Internal dimensions (mm)			Weight (kg)			Volume (m3)
Type	Size	Width	Height	Length	Width	Height to load line	Max. Gross	Tare	Max. Payload	Capacity to load line
40" wide door	40' x 8' x 8'6"	2,343	2,278	12,056	2,347	2,379	32,500	2,790	29,710	67
40" high	40' x 8' x 9'6"	2,343	2,584	12,056	2,347	2,684	32,500	2,900	29,600	76
45" high	45' x 8' x 9'6"	2,340	2,584	13,582	2,347	2,696	32,500	3,900	28,600	86

Reefer containers

For dimensions of specific units, please contact Rock-it Cargo. Dimensions vary within container series.

Special features

- Super Cool version maintaining a cargo temperature of -27 degrees C/ -15 degrees F
- Dehumidification system ensuring the optimal humidity inside the container
- Controlled atmosphere providing the optimal conditions, improving quality and shelf life
- Environmentally-friendly CFC free R-134A refrigerant
- Super Freezers capable of maintaining temperatures as low as -60 degrees C/ -76 degrees F

Reefer / Steel		Door openings (mm)		Internal dimensions (mm)			Weight (kg)			Volume (m3)
Type	Size	Width	Height	Length	Width	Height to load line	Max. Gross	Tare	Max. Payload	Capacity to load line
20" std	20' x 8' x 8' 6"	2,294	2,201	5,451	2,290	2,156	30,480	2,930	27,550	27.9
40" high	40' x 8' x 9' 6"	2,278	2,473	11,578	2,280	2,425	34,000	4,500	29,500	64

Reefer / Aluminium		Door openings (mm)		Internal dimensions (mm)			Weight (kg)			Volume (m3)
Type	Size	Width	Height	Length	Width	Height to load line	Max. Gross	Tare	Max. Payload	Capacity to load line
20" std	20' x 8' x 8' 6"	2,286	2,188	5,430	2,286	2,155	27,000	2,750	24,250	26.8
40" std	40' x 8' x 8' 6"	2,294	2,174	11,577	2,294	2,110	32,500	3,900	28,600	56.1
40" high	40' x 8' x 9' 6"	2,290	2,535	11,577	2,294	2,409	32,500	4,150	28,350	64.1

Special equipment

There are several options for oversized or especially heavy cargo.

20' and 40' **flat racks** and **artificial tweendecks**, have fixed or collapsible end-walls. They are suitable for top or side loading and ideal for heavy machinery, pipes, etc.

20' and 40' **open-top containers**, have removable roof bows and tarpaulin covers.
20' **open-top/open-side containers**, have removable side grating, top rails, roof bows and door headers. These containers are specially designed for easy stuffing and stripping. They also ensure effective ventilation.

Flat rack / Steel		Internal dimensions (mm)						Weight (kg)		
Type	Size	Length	Width	Height	Length between headers	Length between corner posts	Width between corner posts	Gross	Tare. Payload	Max. payload
20 fixed-corner	20' x 8' x 8' 6"	5,935	2,398	2,327	5,935	5,693	2,106	24,000	2,560	21,440
20 collapsible	20' x 8' x 8' 6"	5,966	2,418	2,286	5,850	5,422	2,058	30,480	2,970	27,510
40 fixed-corner	40' x 8' x 8' 6"	12,080	2,438	2,103	12,080	11,796	2,114	30,480	5,480	25,000
40 open-end	40' x 8' x 9' 6"	12,192	2,230	1,986	11,900	11,710	2,178	45,000	4,500	40,500
40 flush-fold	40' x 8' x 9' 6"	12,178	2,365	1,943	12,058	11,662	2,224	45,000	5,200	39,800

Flat rack / Steel		Internal dimensions (mm)		Maximum load (kg)			Weight (kg)	
Type	Size	Length	Width	Concentrated (kg/sq.feet)	on mid 10 ft	Max. gross	Tare	Max. payload
40 atd	40'x 8'x 20' 3/8"	12,052	2,438	4,535	12,148	44,440	4,860	39,580

Open-tops / Steel		Internal dimensions (mm)			Door opening (mm)		Top opening (mm)		Weight (kg)			Volume (m3)
Type	Size	Length	Width	Height	Width	Height	Length	Width	Max. gross	Tare	Max. payload	Capacity
20 open-top	20'x 8'x 8'6"	5,919	2,340	2,286	2,286	2,251	5,425	2,223	24,000	2,177	21,823	32
40 open-top	40'x 8'x 8'6"	12,043	2,338	2,272	2,289	2,253	11,622	2,162	30,480	4,300	26,180	64

Open-tops / Aluminium		Internal dimensions (mm)			Door opening (mm)		Top opening (mm)		Weight (kg)			Volume (m3)
Type	Size	Length	Width	Height	Width	Height	Length	Width	Max. gross	Tare	Max. payload	Capacity
20 open-top	20'x 8'x 8'6"	5,893	2,346	2,353	2,338	2,273	5,488	2,230	30,480	2,250	28,230	32
40 open-top	40'x 8'x 8'6"	12,029	2,348	2,359	2,338	2,275	11,622	2,188	32,500	3,800	28,700	66

Lampiran 2 Tabel karakteristik refrigerant

Tabel L. 1 Sifat-sifat fisik beberapa refrigerant

Refrigerant No.	Chemical Name or Composition (% by Mass)	Chemical Formula	Molecular Mass	Boiling Pt. (NBP) at 101.325 kPa, °C	Freezing Point, °C	Critical Temperature, °C	Critical Pressure, kPa	Critical Density, kg/m^3	Refractive Index of Liquid[b,c]
728	Nitrogen	N_2	28.013	−195.8	−210.0	−146.96	3395.8	313.3	1.205 (83 K) 589.3 nm
729	Air	—	28.959	−194.25	—	−140.59	3789.6	335.94	—
740	Argon	Ar	39.948	−185.85	−189.34	−122.46	4863.0	535.6	1.233 (84 K) 589.3 nm
732	Oxygen	O_2	31.999	−182.96	−218.79	−118.57	5043.0	436.14	1.221 (92 K) 589.3 nm
50	Methane	CH_4	16.043	−161.48	−182.46	−82.586	4599.2	162.66	—
14	Tetrafluoromethane	CF_4	88.005	−128.05	−183.61	−45.64	3750.0	625.66	—
170	Ethane	C_2H_6	30.07	−88.598	−182.8	32.18	4871.8	206.58	—
503	R-23/13 (40.1/59.9)	—	87.247	−87.76	—	18.417	4280.5	565.68	—
508A[4]	R-23/116 (39/61)	—	100.1	−87.377	—	10.844	3668.2	570.62	—
508B[4]	R-23/116 (46/54)	—	95.394	−87.344	—	11.827	3789	572.13	—
23	Trifluoromethane	CHF_3	70.014	−82.018	−155.13	26.143	4832	526.5	—
13	Chlorotrifluoromethane	$CClF_3$	104.46	−81.48	−181.15	28.85	3879	582.88	1.146 (25)[2]
744	Carbon dioxide	CO_2	44.01	−78.4[d]	−56.558[e]	30.978	7377.3	467.6	1.195 (15)
504	R-32/115 (48.2/51.8)	—	79.249	−57.695	—	61.084	433.7	504.62	—
32	Difluoromethane	CH_2F_2	52.024	−51.651	−136.81	78.105	5782.0	424	—
410A	R-32/125 (50/50)	—	72.585	−51.443	—	71.358	4902.6	459.53	—
125	Pentafluoroethane	C_2HF_5	120.02	−48.09	−100.63	66.023	3617.7	573.58	—
1270	Propylene	C_3H_6	42.08	−47.69	−185.2	92.42	4664.6	223.39	1.3640 (−50)[1]
143a	Trifluoroethane	CH_3CF_3	84.041	−47.241	−111.81	72.707	3761.0	431.0	—
507A	R-125/143a (50/50)	—	98.859	−46.741	—	70.617	3705	490.77	—
404A	R-125/143a/134a (44/52/4)	—	97.604	−46.222	—	72.046	3728.9	486.53	—
502	R-22/115 (48.8/51.2)	—	111.63	−45.174	—	80.153	3917.6	566.03	—
407C	R-32/125/134a (23/25/52)	—	86.204	−43.627	—	86.034	4629.8	484.23	—
290	Propane	C_3H_8	44.096	−42.09	−187.67	96.675	4247.1	218.5	1.3397 (−42)
22	Chlorodifluoromethane	$CHClF_2$	86.468	−40.81	−157.42	96.145	4990.0	523.84	1.234 (25)[2]
115	Chloropentafluoroethane	$CClF_2CF_3$	154.47	−38.94	−99.39	79.95	3120.0	613.1	1.221 (25)[2]
500	R-12/152a (73.8/26.2)	—	99.303	−33.603	—	102.09	4168.6	495.1	—
717	Ammonia	NH_3	17.03	−33.327	−77.655	132.25	11333.0	225.0[d]	1.325 (16.5)
12	Dichlorodifluoromethane	CCl_2F_2	120.91	−29.752	−157.05	111.97	4136.1	565.0	1.288 (25)[2]
134a	Tetrafluoroethane	CF_3CH_2F	102.03	−26.074	−103.3	101.06	4059.3	511.9	—
152a	Difluoroethane	CHF_2CH_3	66.051	−24.023	−118.59	113.26	4516.8	368	—
124	Chlorotetrafluoroethane	$CHClFCF_3$	136.48	−11.963	−199.15	122.28	3624.3	560.0	—
600a	Isobutane	C_4H_{10}	58.122	−11.67	−159.59	134.67	3640.0	224.35	1.3514 −25)[1]
142b	Chlorodifluoroethane	$CClF_2CH_3$	100.5	−9.15	−130.43	137.11	4070.0	446.0	—
C318	Octafluorocyclobutane	C_4F_8	200.03	−5.975	−39.8	115.23	2777.5	619.97	
600	Butane	C_4H_{10}	58.122	−0.55	−138.28	151.98	3796.0	227.84	1.3562 (−15)[1]
114	Dichlorotetrafluoroethane	$CClF_2CClF_2$	170.92	3.586	−94.15	145.68	3257.0	579.97	1.294 (25)
11	Trichlorofluoromethane	CCl_3F	137.37	23.708	−110.47	197.96	4407.6	554.0	1.362 (25)[2]
123	Dichlorotrifluoroethane	$CHCl_2CF_3$	152.93	27.823	−107.15	183.68	3661.8	550.0	—
141b	Dichlorotrifluoroethane	CCl_2FCH_3	116.95	32.05	−103.3	206.81	4460.0	460.0	—
113	Trichlorotrifluoroethane	CCl_2FCClF_2	187.38	47.585	−36.22	214.06	3392.2	560.0	1.357 (25)[2]
718[3]	Water	H_2O	18.015	99.974	0.01	373.95	22064.0	322.0	—

Note:
[a]Data from *ASHRAE Thermodynamic Properties of Refrigerants* (Stewart et al. 1986) or from Lemmon et al. (2002), unless otherwise noted.
[b]Temperature of measurement (°C, unless kelvin is noted) shown in parentheses. Data from *CRC Handbook of Chemistry and Physics* (CRC 1987), unless otherwise noted.
[c]For the sodium D line.
[d]Sublimes.
[e]At 527 kPa.

References:
[1]Kirk and Othmer (1956).
[2]*Bulletin* B-32A (DuPont).
[3]*Handbook of Chemistry* (1967).
[4]*NIST Standard Reference Database 23*, v.7.

Tabel L. 2 Nilai indeks ODP dan HGWP beberapa refrigerant

		Chemical Formula	Molecular Mass	Ozone Depletion Potential (ODP)	Global Warming Potential (HGWP)
Hydrofluorocarbons HFCs					
R-32	Difluoromethane	CH_2F_2	52.02	0.0	0.14
R-125	Pentafluoroethane	CHF_2CF_3	120.03	0.0	0.84
R-134a	Tetrafluoroethane	CF_3CH_2F	102.03	0.0	0.26
R-143a	Trifluoroethane	CH_3CF_3	84.0	0.0	
R-152a	Difluoroethane	CH_3CHF_2	66.05	0.0	
R-245ca	Pentafluoropropane	$CF_3CF_2CH_3$	134.1	0.0	
HFC's azeotropics					
R-507	R-125/R-143 (45/55)			0.0	0.98
HFC's near azeotropic					
R-404A	R-125/R-143a (44/52/4)			0.0	0.94
R-407A	R-32/R-125/R-134a (20/40/40)			0.0	0.49
R-407C	R-32/R-125/R-134a (23/25/52)			0.0	0.70
Hydrochlorofluorocarbons HCFCs and their azeotropics					
R-22	Chlorodifluoromethane	$CHClF_2$	86.48	0.05	0.40
R-123	Dichlorotrifluoroethane	$CHCl_2CF_3$	152.93	0.02	0.02
R-124	Chlorotetrafluoroethane	$CHFClCF_3$	136.47	0.02	
HCFC's near azeotropics					
R-402A	R-22/R-125/R-290 (38/60/2)			0.02	0.63
HCFC's azeotropics					
R-401A	R-22/R-124/R-152a (53/34/13)			0.37	0.22
R-401B	R-22/R-124/R-152a (61/28/11)			0.04	0.24
Inorganic compounds					
R-717	Ammonia	NH_3	17.03	0	0
R-718	Water	H_2O	18.02	0	
R-729	Air		28.97	0	
Chlorofluorocarbons CFCs, halons BFCs and their azeotropic					
R-11	Trichlorofluoromethane	CCl_3F	137.38	1.00	1.00
R-12	Dichlorodifluoromethane	CCl_2F_2	120.93	1.00	3.20
R-13B1	Bromotrifluoromethane	$CBrF_3$	148.93	10	
R-113	Trichlorotrifluoroethane	CCl_2FCClF_2	187.39	0.80	1.4
R-114	Dichlorotetrafluoroethane	CCl_2FCF_3	170.94	1.00	3.9
R-500	R-12/R-152a (73.8/26.2)		99.31		
R-502	R-22/R-115 (48.8/51.2)		111.63	0.283	4.10

Tabel L. 3 Tabel kemanan (safety) dan mampu bakar (flammability) beberapa refrigerant

	Replacement of	Trade Name	Flammability	Safety
Hydrofluorocarbons HFCs				
R-32				
R-125			Nonflammable	A1
R134a	R-12		Nonflammable	A1
R143a				
R-152a			Lower flammable	A2
R-245ca				
HFC's azeotropics				
R-507	R-502	Genetron AZ-50		
HFC's near azeotropic				
R-404A	R-22	SUVA HP-62		A1/A1[a]
R-407A	R-22	KLEA 60		A1/A1[a]
R-407C	R-22	KLEA 66		A1/A1[a]
Hydrochlorofluorocarbons HCFC's and their azeotropics				
R-22			Nonflammable	A1
R-123	R-11		Nonflammable	B1
R-124				
HCFC's near azeotropics				
R-402A	R-502	SUVA HP-80		A1/A1[a]
HCFC's azeotropics				
R-401A	R-12	MP 39		A1/A1[a]
R-401B	R-12	MP 66		A1/A1[a]
Inorganic compounds				
R-717			Lower flammability	B2
R-718			Nonflammable	
R-729			Nonflammable	
Chlorofluorocarbons CFCs, halons BFCs, and their azeotropics				
R-11			Nonflammable	A1
R-12			Nonflammable	A1
R-13B1			Nonflammable	A1
R-113			Nonflammable	A1
R-114			Nonflammable	A1
R-500	R-12/R-152a (73.8/26.2)		Nonflammable	A1
R-502	R-22/R-115 (48.8/51.2)		Nonflammable	A1

Source: Adapted with permission from *ASHRAE Handbooks 1993 Fundamentals.* Also from refrigerant manufacturers.

[a] First classification is that safety classification of the formulated composition. The second is the worst case of fractionation.

Version 4.2

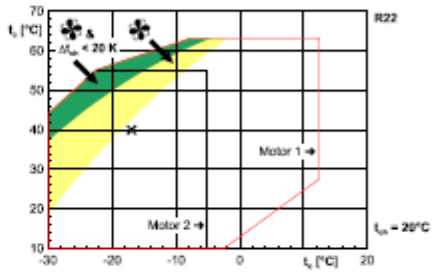
12/10/2007 / All data subject to change.

Compressor Selection: Semi-hermetic Reciprocating Compressors

Input Values

Compressor model	4PCS-10.2-40P
Refrigerant	R22
Reference temperature	Dew point temp.
Evaporating SST	-17°C
Condensing SDT	40°C
Liquid subcooling	0K
Suction gas temperature	20°C
Power supply	400V-3-50Hz
Useful superheat	100%
Capacity regulation	100%

Application Limits (100%)



Output

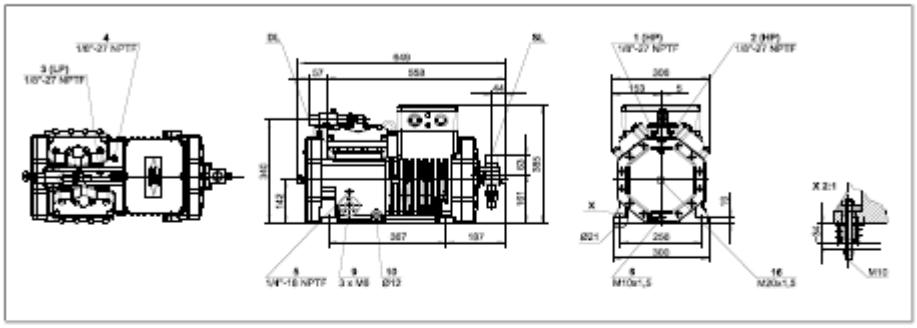
Compressor model	4PCS-10.2-40P
Cooling capacity	18.89 kW
Cooling capacity *	18.89 kW
Evaporator capacity	18.89 kW
Power input	7.92 kW
Current (400V)	13.62 A
Voltage range	380-420V
Condensing capacity	26.8 kW
COP/EER	2.38
COP/EER *	2.38
Mass flow	390 kg/h
Operating mode	Standard

*according to EN12900 (20°C suction gas temp., 0K liquid subcooling)

Version 4.2 | 12/7/2007 / All data subject to change.

Technical Data: 4PCS-10.2-40P

Dimensions and Connections



Technical Data

Displacement(1450 RPM50Hz)	48,50 m3/h
Displacement(1750 RPM60Hz)	58,53 m3/h
No. of cylinder x bore x stroke	4 x 65 mmx 42 mm
Motor voltage (more on request)	380-420V PW-3-50 Hz
Max operating current	21.0 A
Winding ratio	50/50
Starting current (Rotor locked)	99.0 A Y / 99.0 A YY
Weight	139 kg
Max. pressure (LP/HP)	19 / 28 bar
Connection suction line	35 mm- 1 3/8"
Connection discharge line	28 mm- 1 1/8"
Connection cooling water	--
Oil type R134a/R407C/R404A/R507A	tc<55°C: BSE32 / tc>55°C: BSE55 (Option)
Oil type R22 (R12/R502)	B5.2 (Standard)
Oil charge	2,60 dm³
Crankcase heater	0...120 W PTC(Option)
Oil pressure monitoring	--
Oil service valve	--
Discharge gas temperature sensor	Option
Motor protection	SE-B1
Enclosure class	IP65
Start unloading	Option
Capacity control	100-50% (Option)
Additional fan	Option
Water-cooled cylinder heads	--
CIC System	Option
Vibration dampers	Standard
Sound power level (+5°C / 50°C) @ 50Hz	--
Sound power level (-10°C / 45°C) @ 50Hz	76,5 dB(A)
Sound power level (-35°C / 40°C) @ 50Hz	81,0 dB(A)
Sound pressure level @ 1m (+5°C / 50°C) @ 50Hz	--
Sound pressure level @ 1m (-10°C / 45°C) @ 50Hz	68,5 dB(A)
Sound pressure level @ 1m (-35°C / 40°C) @ 50Hz	73,0 dB(A)

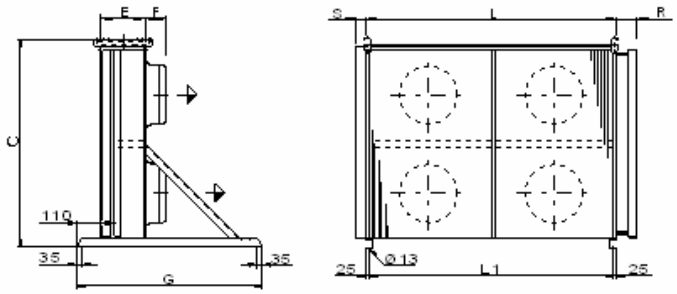
Date: 2007-12-03
Enquiry dated:
Project:
Quotation-no.:
Item:
Reference:

Condenser GVV 052A/2X2-N(W)

Capacity:	26.0 kW	Refrigerant:	R22[1]
		Hot gas temp.:	95.0 °C
Air flow:	29750 m³/h	Condensation temp.:	39.0 °C
Air inlet:	35.0 °C	Condensate outlet:	38.0 °C
Altitude:	10 m	Hot gas flow:	7.74 m³/h
Fans:	4 Piece(s) 1~230V 50Hz	Noise pressure level:	54 dB(A)[2]
Data per motor (nominal data):		at a distance of:	10.0 m
Speed:	1210 min-1	Noise power level:	86 dB(A)
Capacity (mech./el.):	0.46 kW/0.77 kW		
Current:	3.4 A[3]		
Total el. power consumption:	3.08 kW	Energy efficiency class:	D
Casing:	Galv. Steel, RAL 7035	Tubes:	Copper
Surface:	207.2 m²	Fins:	Aluminum
Tube volume:	39 l	Connections per unit:	
Fin pitch:	2.20 mm	Inlet:	54.0 * 2.00 mm
Passes:	6	Outlet:	42.0 * 1.60 mm
Dry weight:	181 kg[4]	Distributions:	1 * 41

Dimensions:

L = 1850 mm
E = 340 mm
R = 130 mm
C = 1725 mm
L1 = 1800 mm
G = 1230 mm
S = 50 mm
F = 210 mm



Attention: Drawing and dimensions not valid for all accessory options!

Unit price 4750.00 EUR

-11-06, PL 1/2006

COFFING HOISTS

HAND CHAIN HOISTS

Low Headroom — Government Approved

AT Model Hand Chain Hoist

1/2 - 8 Ton
Made in USA

COFFING AT Model - An Army-type trolley hoist. The AT is ideal for industrial lifting applications which require low headroom for longer hook travel.

- **CAPACITIES & LIFT** - Rated loads from 1/2 to 8 Tons in plain or geared trolley models. Standard 8-foot lift with 6-foot hand chain drop. Other lifts and hand chain drops available.
- **GOVERNMENT APPROVED** - All models meet MIL-H-904 Class 1 and Class 2 requirements, Type D or E, Style 1 or 2.
- **LOW HEADROOM** - Army-type trolley hoist design provides excellent headroom for longer hook travel.
- **RUGGED** - Hoist housing and frame made from iron material.
- **DUAL ARTICULATING TROLLEYS** - Designed to travel tight radius curved beams.
- **OPTIONAL CAPACITY LIMITER** - Clutch assembly prevents lifting of damaging overloads by disengaging the hand wheel, protecting both the operator and the load. Provided when specified - at *no extra charge*.
- **LONG-LIFE** - Unique right angle drive provides superior performance with fewer wearing parts. Exclusive Superoid® gearing engages more gear teeth to support the load (see page 31).
- **LOAD CONTROL** - Fully enclosed, self-adjusting, friction-type screw and dual disc Weston load brake ensures positive load control.
- **OPTIONS** - Bullard hooks, plated hooks, plated chain, stainless steel chain, spark-resistant features, and top clevis connection available — consult factory. Chain containers available, see page 35.
- **LIFETIME WARRANTY**

SPECIFICATIONS

AT Hand Chain Hoists

Capacity Lbs.	Capacity Tons	Model Number	Strands of Load Chain	Minimum Headroom (in.)	Hand Chain Overhaul for 1 Ft. Lift (Ft.)	Average Pull to Lift Rated Load (Lbs.)	Std. Beam Height (in.)	Min. Radius Curve (in.)	Net Weight Plain (P) (Lbs.)	Net Weight Geared (G) (Lbs.)
1000	1/2	AT-1/2-P(G)	1	10 3/16	24	39	6-18	21	94	101
2000	1	AT-1-P(G)	2	11	48	41	6-18	21	98	105
3000	1 1/2	AT-1 1/2-P(G)	1	14 5/8	58	62	6-18	21	152	159
4000	2	AT-2-P(G)	1	14 5/8	58	83	6-18	21	152	159
6000	3	AT-3-P(G)	2	19 1/8	116	64	6-18	21	167	174
8000	4	AT-4-P(G)	2	19 1/8	116	85	6-18	21	167	174
10000	5	AT-5-P(G)	3	21 5/16	174	72	6-18	48	195	202
12000	6	AT-6-P(G)	3	21 5/16	174	87	6-18	48	195	202
16000	8	AT-8-P(G)	4	20 3/4	232	90	6-18	48	241	248

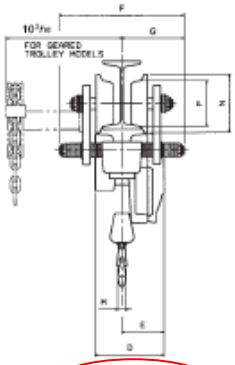
NOTE: When ordering, specify "P" for plain trolley or "G" for geared trolley.

NOTE: For complete dimensional data, refer to Coffing Dimensional Databook.

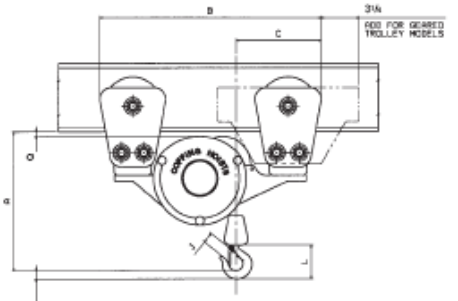
32

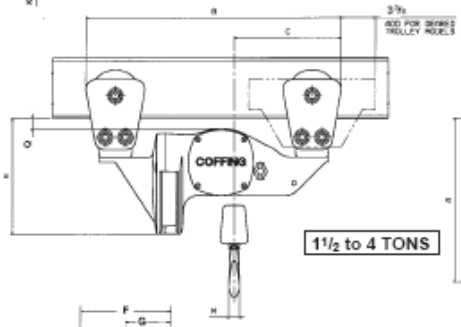
Country Club Road
P.O. Box 779
Wadesboro, NC 28170
Phone (800) 477-5003
FAX (800) 374-6853

AT 1/2 to 8 Ton

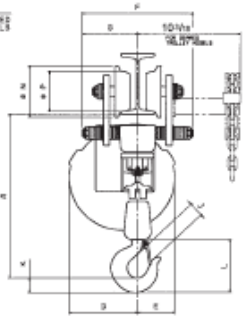


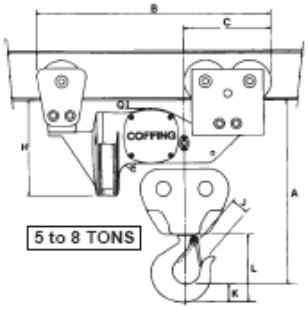
1/2 to 1 TON



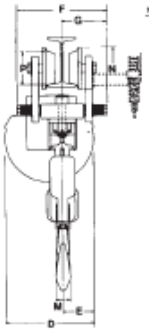


1 1/2 to 4 TONS





5 to 8 TONS



All dimensions are based on 6" x 12.5# American Standard I-Beam.

18" Minimum radius on 1/2 thru 4 Ton (plain trolley models).

4-Ft. Minimum Radius on 5 thru 8 Ton (plain trolley models) and all 1/2 thru 8 Ton (geared trolley models).

Dimensions are in inches unless otherwise indicated.

Dimensions

Model No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
AT1/2	10 9/16	19 11/16	7 17/32	6 1/8	3 3/4	10 3/4	5 3/8	8 1/4	1	1	3 11/16	3/4	5 1/8	4	13/32
AT1	11	19 11/16	6 27/32	6 1/8	3 3/4	10 3/4	5 3/8	8 1/4	1	1	3 11/16	3/4	5 1/8	4	13/32
AT1 1/2	14 5/8	25 9/16	10 3/4	10 1/2	3 11/16	10 3/4	5 3/8	11 9/16	1 11/32	1 7/16	5 7/32	1 1/8	5 1/8	4	1
AT2	14 5/8	25 9/16	10 3/4	10 1/2	3 11/16	10 3/4	5 3/8	11 9/16	1 11/32	1 7/16	5 7/32	1 1/8	5 1/8	4	1
AT3	19 1/8	25 9/16	7 7/8	10 1/2	3 11/16	10 3/4	5 3/8	11 9/16	1 11/16	1 13/16	6 9/16	1 3/8	5 1/8	4	1
AT4	19 1/8	25 9/16	7 7/8	10 1/2	3 11/16	10 3/4	5 3/8	11 9/16	1 11/16	1 13/16	6 9/16	1 3/8	5 1/8	4	1
AT5	21 5/16	28 1/4	11 25/32	10 1/2	3 11/16	10 3/4	5 3/8	11 9/16	1 11/16	1 13/16	6 9/16	1 3/8	5 1/8	4	1
AT6	21 5/16	28 1/4	11 25/32	10 1/2	3 11/16	10 3/4	5 3/8	11 9/16	1 11/16	1 13/16	6 9/16	1 3/8	5 1/8	4	1
AT8	20 3/4	27 13/16	10 3/8	10 1/2	3 11/16	10 3/4	5 3/8	11 9/16	2 1/16	2 1/4	8 1/8	1 5/8	5 1/8	4	1

Note: Where clearance dimensions are critical, request certified prints. 71

Army Type Plain Trolley Models Standard Lift 8 Feet, Standard Hand Chain Drop 6 Feet

Model Number	Product Code	Rated Capacity (Ton)	Min. Dist. Betw. Hooks (in.)	No. of Chns.	Chain Pull @ Rated Load. (Lbs.)	Hand Chain Overhaul Per Ft. of Lft. (Ft.)	Ship Wt. (Lbs.)	User Price	Extra Chain ** Per Lift Ft.	
									Load	Hand
AT-1/2P	06001	1/2	10 3/16	1	39	24	97	1130	11.40	10.20
AT-1P	06003	1	11	2	41	48	101	1290	22.80	10.20
AT-1 1/2P	06005	1 1/2	14 5/8	1	62	58	155	1700	15.60	10.20
AT-2P	06007	2	14 5/8	1	83	58	155	1778	15.60	10.20
AT-3P	06009	3	19 1/8	2	64	116	171	2368	31.20	10.20
AT-4P	06011	4	19 1/8	2	85	116	171	2519	31.20	10.20
AT-5P	06013	5	21 5/16	3	72	174	200	2810	46.80	10.20
AT-6P	06015	6	21 5/16	3	87	174	200	2840	46.80	10.20
AT-8P	06017	8	20 3/4	4	90	232	246	3815	62.40	10.20

Note: 1/2 - 2 ton models have a 21 in. minimum radius curve. 3-8 ton models have a 48 in. minimum radius curve.
Models 1/2 - 2 ton have 4 wheel trolleys, 3-4 ton have 6 wheel trolleys, 5-8 ton have 8 wheel trolleys.

Army Type Geared Trolley Models Standard Lift 8 Feet, Standard Hand Chain Drop 6 Feet

Model Number †	Product Code	Rated Capacity (Ton)	Min. Dist. Betw. Hooks (in.)	No. of Chns.	Chain Pull @ Rated Load. (Lbs.)	Hand Chain Overhaul Per Ft. of Lft. (Ft.)	Ship Wt. (Lbs.)	User Price	Extra Chain ** Per Lift Ft.	
									Load	Hand ‡
AT-1/2G	06002	1/2	10 3/16	1	39	24	104	1540	11.40	20.40
AT-1G	06004	1	11	2	41	48	108	1692	22.80	20.40
AT-1 1/2G	06006	1 1/2	14 5/8	1	62	58	162	2034	15.60	20.40
AT-2G	06008	2	14 5/8	1	83	58	162	2049	15.60	20.40
AT-3G	06010	3	19 1/8	2	64	116	178	2675	31.20	20.40
AT-4G	06012	4	19 1/8	2	85	116	178	3227	31.20	20.40
AT-5G	06014	5	21 5/16	3	72	174	207	3410	46.80	20.40
AT-6G	06016	6	21 5/16	3	87	174	207	3429	46.80	20.40
AT-8G	06018	8	20 3/4	4	90	232	253	4431	62.40	20.40

‡ Hand chain for hoist and trolley.
† Capacity limiter available from factory at no extra charge. Please specify at time of order.
** Lifts other than 8 Ft. should be calculated from 8 Ft. price. Hand chain drop is 2 Ft. less than lift.
† 1/2 to 4-Ton models have 6-wheels, 5, 6 & 8-Ton models have 8-wheels - straight track only, consult factory for curved track. For Patented Track and Special Flanges, see page 11.

29

Danfoss product range

Thermostatic expansion valves

Danfoss offers a comprehensive range of thermostatic expansion valves with capacities from 0.5 to 1090 kW (R 22).

T/TE 2 valves have a brass housing and flare/flare or solder/flare connections.
Rated capacity: 0.5 - 15.5 kW (R 22).

TUA, TUB, TUC valves have a stainless steel housing and stainless steel/copper bimetal solder connections.

Rated capacity: 0.6 - 16 kW (R 22).

The valves can be supplied with or without external pressure equalization.

- TUA has an interchangeable orifice assembly and adjustable superheat.
- TUB has a fixed orifice and adjustable superheat.
- TUC has a fixed orifice and factory set superheat.

TUB and TUC are primarily for OEM customers. All TUB and TUC valves can be replaced by TUA valves.

TCAE, TCBE, TCCE valves have a stainless steel housing and stainless steel/copper bimetal solder connections.

Rated capacity: 17.5 - 26.5 kW (R 22).

The valves are designed as the TU valves but with a higher capacity.
The valves are supplied with external pressure equalization.

TRE valves have a brass housing and stainless steel/copper bimetal connections.

Rated capacity: 28 - 245 kW (R 22).

The valves are supplied with a fixed orifice and adjustable superheat.

TDE valves have a brass housing and copper solder connections.

Rated capacity: 10.5 - 140 kW (R 22)

The valves are supplied with a fixed orifice and adjustable superheat.

TE 5 - TE 55 valves have a brass housing.
The valves are supplied as a part programme consisting of valve housing, orifice and thermostatic element.

The valve housing is available in a straightway or angleway version with solder, flare and flange connections.

Rated capacity: 19.7 - 356 kW (R22).

The valves are supplied with external pressure equalization.

PHT 85 - 300 valves are supplied as a part programme consisting of valve housing, flanges, orifice and thermostatic element.

Rated capacity: 105 - 1890 kW (R 22).

For further information consult the internet or the catalogue material.

Design conditions for SURABAYA/JUANDA MIL, Indonesia

Station Information

Station name	WMO#	Lat	Long	Elev	StdP	Hours +/- UTC	Time zone code	Period
1a	1b	1c	1d	1e	1f	1g	1h	1i
SURABAYA/JUANDA MIL	969350	7.37S	112.77E	3	101.29	7.00	SEA	8401

Annual Heating and Humidification Design Conditions

Coldest month	Heating DB		Humidification DP/MCDB and HR						Coldest month WS/MCDB				MCWS/PCWD to 99.6% DB	
			99.6%			99%			0.4%		1%			
	99.6%	99%	DP	HR	MCDB	DP	HR	MCDB	WS	MCDB	WS	MCDB	MCWS	PCWD
2	3a	3b	4a	4b	4c	4d	4e	4f	5a	5b	5c	5d	6a	6b
2	20.8	21.7	16.2	11.5	30.2	17.5	12.5	29.6	9.1	30.2	8.2	29.8	0.2	270

Annual Cooling, Dehumidification, and Enthalpy Design Conditions

Hottest month	Hottest month DB range	Cooling DB/MCWB						Evaporation WB/MCDB						MCWS/PCWD to 0.4% DB	
		0.4%		1%		2%		0.4%		1%		2%			
		DB	MCWB	DB	MCWB	DB	MCWB	WB	MCDB	WB	MCDB	WB	MCDB	MCWS	PCWD
7	8	9a	9b	9c	9d	9e	9f	10a	10b	10c	10d	10e	10f	11a	11b
10	9.3	34.2	24.5	33.7	24.6	33.1	24.8	27.0	31.2	26.7	30.8	26.5	30.5	4.3	90

Dehumidification DP/MCDB and HR									Enthalpy/MCDB					
0.4%			1%			2%			0.4%		1%		2%	
DP	HR	MCDB	DP	HR	MCDB	DP	HR	MCDB	Enth	MCDB	Enth	MCDB	Enth	MCDB
12a	12b	12c	12d	12e	12f	12g	12h	12i	13a	13b	13c	13d	13e	13f
26.0	21.3	28.9	25.6	20.8	28.6	25.2	20.4	28.4	84.9	31.8	83.8	31.3	82.9	30.8

Extreme Annual Design Conditions

Extreme Annual WS			Extreme Max	Extreme Annual DB				n-Year Return Period Values of Extreme DB							
				Mean		Standard deviation		n=5 years		n=10 years		n=20 years		n=50 years	
1%	2.5%	5%	WB	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
14a	14b	14c	15	16a	16b	16c	16d	17a	17b	17c	17d	17e	17f	17g	17h
7.9	6.7	5.7	33.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Monthly Design Dry Bulb and Mean Coincident Wet Bulb Temperatures

	Jan		Feb		Mar		Apr		May		Jun	
%	DB	MCWB	DB	MCWB	DB	MCWB	DB	MCWB	DB	MCWB	DB	MCWB
	18a	18b	18c	18d	18e	18f	18g	18h	18i	18j	18k	18l
0.4%	33.8	26.1	33.2	25.9	33.2	25.9	33.1	25.9	33.2	25.6	32.2	25.1
1%	33.1	26.1	32.9	25.9	32.9	25.8	32.9	25.9	32.9	25.7	32.1	25.1
2%	32.8	26.0	32.3	25.8	32.4	25.8	32.3	25.8	32.4	25.5	32.0	25.0

	Jul		Aug		Sep		Oct		Nov		Dec	
%	DB	MCWB	DB	MCWB	DB	MCWB	DB	MCWB	DB	MCWB	DB	MCWB
	18m	18n	18o	18p	18q	18r	18s	18t	18u	18v	18w	18x
0.4%	32.2	24.4	32.8	24.1	33.8	22.8	34.9	23.6	35.2	24.7	34.2	25.9
1%	32.0	24.5	32.2	23.9	33.2	23.1	34.2	23.7	34.9	24.8	33.8	25.7
2%	31.6	24.2	32.0	23.8	33.1	23.1	34.1	23.8	34.3	24.8	33.2	25.5

Monthly Design Wet Bulb and Mean Coincident Dry Bulb Temperatures

	Jan		Feb		Mar		Apr		May		Jun	
%	WB	MCDB	WB	MCDB	WB	MCDB	WB	MCDB	WB	MCDB	WB	MCDB
	19a	19b	19c	19d	19e	19f	19g	19h	19i	19j	19k	19l
0.4%	27.1	31.4	27.1	31.5	27.1	31.1	27.4	31.4	27.2	31.6	26.8	30.5
1%	26.9	31.4	26.8	30.9	26.7	30.7	27.0	30.9	26.8	30.9	26.6	30.3
2%	26.7	31.0	26.6	30.7	26.6	30.5	26.7	30.5	26.6	30.7	26.4	30.0

	Jul		Aug		Sep		Oct		Nov		Dec	
%	WB	MCDB	WB	MCDB	WB	MCDB	WB	MCDB	WB	MCDB	WB	MCDB
	19m	19n	19o	19p	19q	19r	19s	19t	19u	19v	19w	19x
0.4%	26.3	30.2	26.0	30.3	25.7	30.0	26.5	31.1	26.7	31.3	26.9	31.6
1%	26.1	29.8	25.6	30.0	25.5	29.9	26.2	30.8	26.6	31.2	26.7	31.3
2%	25.9	29.5	25.3	29.7	25.2	29.8	26.1	30.7	26.4	31.0	26.5	31.1

Monthly Mean Daily Temperature Range

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
20a	20b	20c	20d	20e	20f	20g	20h	20i	20j	20k	20l
7.3	7.4	7.1	7.0	7.4	7.4	8.0	8.8	9.6	9.3	8.5	7.9

WMO#	World Meteorological Organization number	Lat	Latitude, °	Long	Longitude, °	
Elev	Elevation, m	StdP	Standard pressure at station elevation, kPa			
DB	Dry bulb temperature, °C	DP	Dew point temperature, °C	WB	Wet bulb temperature, °C	
WS	Wind speed, m/s	Enth	Enthalpy, kJ/kg	HR	Humidity ratio, grams of moisture per kilogram of dry air	
MCDB	Mean coincident dry bulb temperature, °C	MCDP	Mean coincident dew point temperature, °C	MCWB	Mean coincident wet bulb temperature, °C	
MCWS	Mean coincident wind speed, m/s	PCWD	Prevailing coincident wind direction, °, 0 = North, 90 = East			

Letak	:	07° 21' Lintang Selatan dan 112° 36' - 112° 54' Bujur Timur
Ketinggian	:	3 - 6 meter di atas permukaan laut (dataran rendah), kecuali di bagian selatan terdapat dua bukit landai di daerah Lidah & Gayungan dengan ketinggian 25-50 meter di atas permukaan laut
Batas Wilayah	:	Sebelah Utara : Selat Madura Sebelah Timur : Selat Madura Sebelah Selatan : Kabupaten Sidoarjo Sebelah Barat : Kabupaten Gresik
Luas Wilayah	:	33.306,30 Km²
Jumlah Kecamatan	:	31
Jumlah Desa/Kelurahan	:	163
Kelembapan Udara	:	rata-rata minimum 47% dan maksimum 88%
Tekanan Udara	:	rata-rata 925,7
Temperatur	:	rata-rata minimum 22,1 °C dan maksimum 33,5 °C
Musim kemarau	:	Mei – Oktober
Musim hujan	:	Nopember – April
Curah Hujan	:	rata-rata 181 mm, curah hujan diatas 200 mm terjadi pada bulan Nopember s/d April
Kecepatan Angin	:	rata-rata 6,0 Knot dan maksimum 22 Knot
Arah Angin Terbanyak	:	Januari : Barat-Barat Laut Pebruari : Barat-Barat Laut Maret : Barat-Barat Laut April : Timur Mei : Timur Juni : Timur Juli : Timur Agustus : Timur September : Timur Oktober : Timur Nopember : Timur Desember : Timur-Tenggara

Penguapan Panci Terbuka	**:** rata-rata 153,7
Struktur Tanah	**:** terdiri atas tanah aluvial, hasil endapan sungai dan pantai, di bagian barat terdapat perbukitan yang mengandung kapur tinggi
Topografi	**:** 80% dataran rendah, ketinggian 3-6 m, kemiringan < 3 % 20% perbukitan dengan gelombang rendah, ketinggian < 30 m dan kemiringan 5-15%

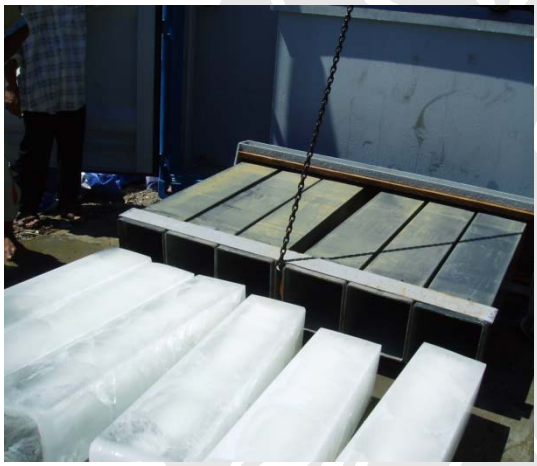
Lampiran 8 Daftar Harga

Plat CS (12 plat 2.4 X 1.2)	Rp. 7.200.000
1. Bak luar	
• Plat 3 mm: 2 X (4 X 0.6) m	
• Plat 3 mm: 2 X (2.26 X 0.6) m	
• Plat 5 mm: 3.994 X 2.254 m	
2. Bak dalam	
• Plat 3 mm: 2 X (3.894 X 0.545) m	
• Plat 3 mm: 2 X (2.154 X 0.545) m	
• Plat 3 mm: 3.888 X 0.54 m	
• Plat 5 mm: 3.888 X 2.148 m	
3. Sandwitch panel	
• Plat 3 mm: 2 X (2.26 X 2.3) m	
Tube copper (d = 42 mm, p = 45 m)	Rp. 6.712.945
Condenser (guetner GVV 052A/2X2-L(W))	Rp. 63.781.146
Kompresor (bitzer 4TCS-8.2-40P)	Rp. 35.000.000
Expansion valve (danfoss T/TE2)	Rp. 650.515
Hoist	Rp. 10.463.800
Polyurethane (5 lembar 2.4 X 1.2)	Rp. 32.000.000
TOTAL	Rp. 155.808.406

Lampiran 9 Gambar-gambar Containerized Block Ice Plant yang Sudah Ada

Mekanisme pengangkatan 1 *row can*

Mekanisme pencelupan pada *diptank*



Mekanisme panen

Letak condenser pada kontainer