MSC-192 Series

HCY-V.003

Medium Screw Compressors

Three Sizes

120-275 TR(420-965 kW)

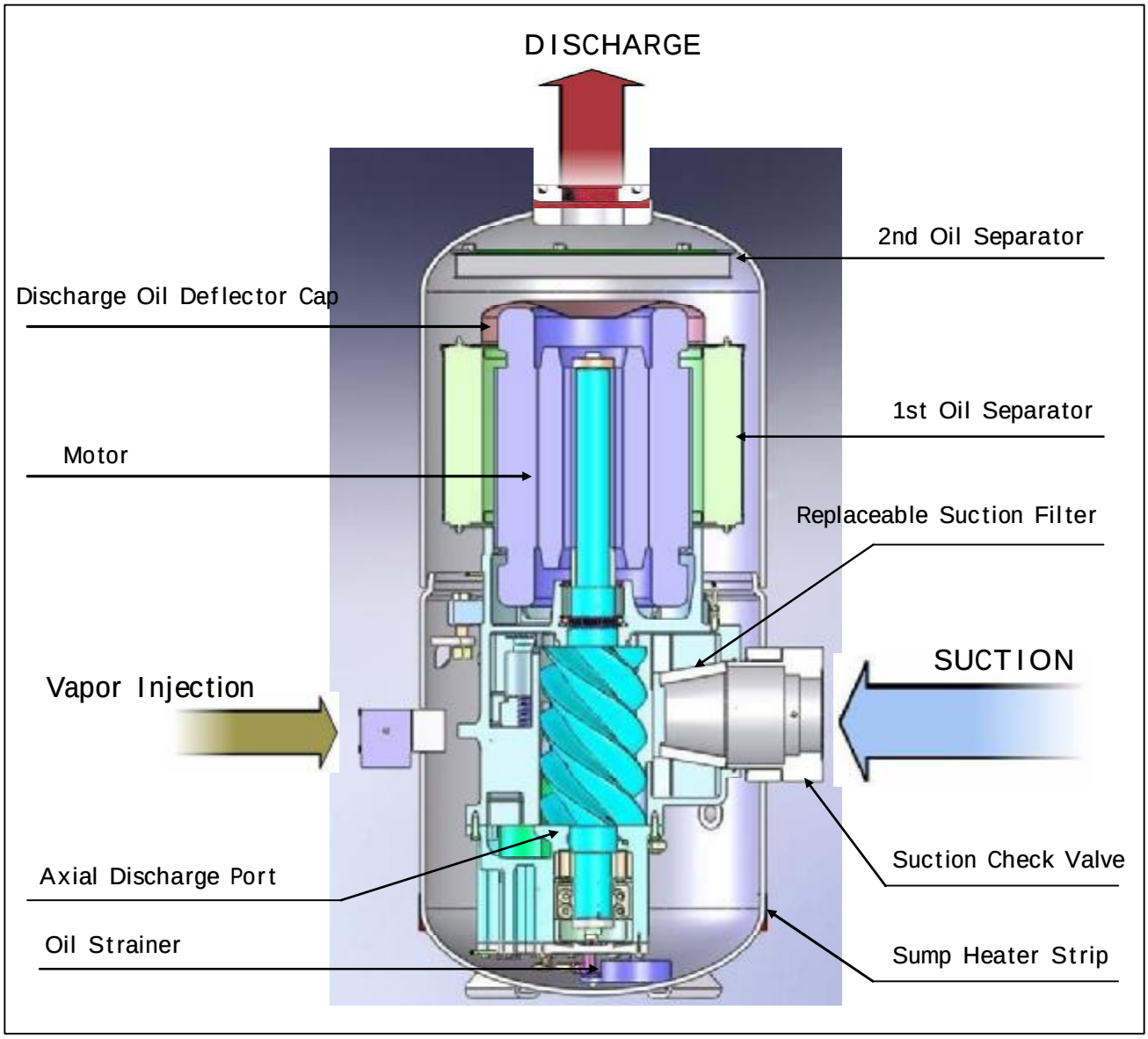
664-900M^3/hr

89-250kW

- Small Footprint
- Built-in,2 steps high efficiency oil separators
- Refrigerants: R22, R134a, R407C
- Designed for A/C Applications
- Fully Hermetic Design
- Models from 0℉(-18℃) to 50℉(12℃) SST
- Models from +65℉(18℃) to 145℉(63℃) SDT
- Low oil carry-over rate of less than 0.6%
- Optional vapor injection to enhance capacity and EER/COP
- Smooth, Quiet Rotary Motion

MSC-192 Series

Standard Features & Benefits



FEATURE	BENEFIT
Slide-Valve Capacity Control	Capacity control from 100% to 25% of full load
Solid State Motor Protector	Thermal motor protection
Unloading Solenoid Valves	Energizes load/unload mechanism
Optical Oil Level Sensor	Electronic low oil level safety, mounted externally
Oil Sump Heater	Prevents refrigerant migration
XL or 2 Step Motor Start	Choice of motor starting method
Built-in Suction Check Valve	Prevents rotors from spinning backwards
Suction Filter	Serviceable filter for compressor protection
Standard Voltage	380/3/50Hz;400/3/50Hz;460/3/60Hz;480/3/60Hz
Oil Strainer	Located in the oil sump to filter oil continuously
Liquid Injection	Standard on air-cooled applications for oil cooling

MSC-192 Series

Standard Units

General Compressor Information

Model	Refrigerant	Motor Nominal kW	Displacement at 50Hz(m3/hr)	Rotor L/D	SST Rage		SDT Rage		Estimated
					Min(℉)	Max(℉)	Min(℉)	Max(℉)	Weight(Lb.)
1222NHF6W4K	R22,R407C	140	664 at 2900RPM	1.22	20	50	65	115	1765
1222NHF6X6K	R22,R407C	210			0	50	65	145	1830
1222NHL6V5K	R134a	89			20	50	65	115	1675
1222NHL6X6K	R134a	130			0	50	65	145	1720
1227NHF6W4K	R22,R407C	180	790 at 2900RPM	1.45	20	50	65	115	1965
1227NHF6X6K	R22,R407C	250			0	50	65	145	2030
1227NHL6V5K	R134a	112			20	50	65	115	1875
1227NHL6X6K	R134a	150			0	50	65	145	1920
1230NHF6W4K	R22,R407C	210	900 at 2900RPM	1.67	20	50	65	115	2215
1230NHL6V5K	R134a	130			20	50	65	115	2115
1230NHL6X6K	R134a	180			0	50	65	145	2170

Capacity(TR),Power(KW),50Hz,R134a

Saturated Suction Temp. ℉	Saturated Discharge Temp.℉	1222		1227		1230	
		CAP (TR)	POW (KW)	CAP (TR)	POW (KW)	CAP (TR)	POW (KW)
10	105	58.5	78.8	69.6	93.7	79.2	106.8
	125	50.6	96.7	60.2	115.1	68.6	131.2
	135	46.6	107.1	55.5	127.4	63.2	145.2
20	105	74.8	83	89.0	98.7	101.4	112.6
	125	64.9	100.8	77.2	119.9	87.9	136.6
	135	59.9	111.4	71.2	132.5	81.1	150.9
30	105	95.1	88.3	113.2	105	128.9	119.7
	125	82.7	106	98.4	126.2	112.1	143.8
	135	76.4	116.5	90.9	138.7	103.6	157.9
40	105	119.2	93.9	141.9	111.6	161.6	127.3
	125	104.2	112	123.9	133.2	141.2	151.7
	135	96.4	122.7	114.7	146.1	130.7	166.2
50	105	148.0	101.2	176.1	120.4	200.7	137.2
	125	130.0	118.8	154.6	141.4	176.1	160.9
	135	120.5	129.8	143.4	154.6	163.3	175.8

Data based on 0℉ subcooling/10℉ superheat.

Note: Performance data on this page is adequate for preliminary selections. For detailed informatio on specific applications contact Hartford Compressors Yantai LTD.

MSC-192 Series

Standard Units

General Compressor Information

Model	Refrigerant	Motor Nominal HP	Displacement at 60Hz(CFM.)	Rotor L/D	SST Rage		SDT Rage		Estimated
					Min(℉)	Max(℉)	Min(℉)	Max(℉)	Weight(Lb.)
1222NHF6W4K	R22,R407C	185	468 at 3500RPM	1.22	20	50	65	115	1765
1222NHF6X6K	R22,R407C	280			0	50	65	145	1830
1222NHL6V5K	R134a	120			20	50	65	115	1675
1222NHL6X6K	R134a	175			0	50	65	145	1720
1227NHF6W4K	R22,R407C	240	560 at 3500RPM	1.45	20	50	65	115	1965
1227NHF6X6K	R22,R407C	330			0	50	65	145	2030
1227NHL6V5K	R134a	150			20	50	65	115	1875
1227NHL6X6K	R134a	200			0	50	65	145	1920
1230NHF6W4K	R22,R407C	280	638 at 3500RPM	1.67	20	50	65	115	2215
1230NHL6V5K	R134a	175			20	50	65	115	2115
1230NHL6X6K	R134a	240			0	50	65	145	2170

Capacity(TR),Power(KW),60Hz,R134a

Saturated Suction Temp.℉	Saturated Discharge Temp.℉	1222		1227		1230	
		CAP (TR)	POW (KW)	CAP (TR)	POW (KW)	CAP (TR)	POW (KW)
10	105	70.2	94.6	83.5	112.4	95.1	128.2
	125	60.7	116.0	72.2	138.1	82.3	157.4
	135	56.0	128.5	66.6	152.9	75.8	174.2
20	105	89.8	99.6	106.8	118.4	121.7	135.1
	125	77.9	121.0	92.6	143.9	105.5	163.9
	135	71.8	133.7	85.5	159.0	97.3	181.1
30	105	114.1	106.0	135.8	126.0	154.7	143.6
	125	99.3	127.2	118.1	151.4	134.6	172.6
	135	91.7	139.8	109.1	166.4	124.3	189.5
40	105	143.1	112.7	170.3	133.9	194.0	152.8
	125	125.1	134.4	148.7	159.8	169.4	182.0
	135	115.7	147.2	137.6	175.3	156.8	199.4
50	105	177.6	121.4	211.3	144.5	240.8	164.6
	125	156.0	142.6	185.5	169.7	211.4	193.1
	135	144.6	155.8	172.1	185.5	196.0	211.0

Data based on 0℉ subcooling/10℉ superheat.

Note: Performance data on this page is adequate for preliminary selections. For detailed informatio on specific applications contact Hartford Compressors Yantai LTD.

Applications

- Ø Air-Conditioning Chillers for Commercial buildings
- Ø Ice-building dual modes chiller for energy saving
- Ø Air-Conditioning and Process Chillers for military and passenger ships *and so much more.*

Compressor Nomenclature

1222 N H F 6 W 4 K OEM BJ 0 C

Compressor Model
1222 = 1.22 L/D
1227 = 1.45 L/D
1230 = 1.67 L/D

COMPRESSOR TYPE
B=Flanged semi-hermetic male drive
N=Fully hermetic male drive

TEMPERATURE APPLICATION
H=High temperature

REFRIGERAANT
F=R22，R407C
L=R134a

UNLOADING CONFIGURATION
6=Aotomatic unloaded start(spring)

INJECTION MODE
W=Vapor injection only(R22)
V=Vapor injection only(R134a)
X=Vapor & liquid injection

MOTOR SIZING
4=Undersize by 1 seep
5=Nominal
6=Oversized by 1 step

COMPRESSOR VERSION
K=Current Version

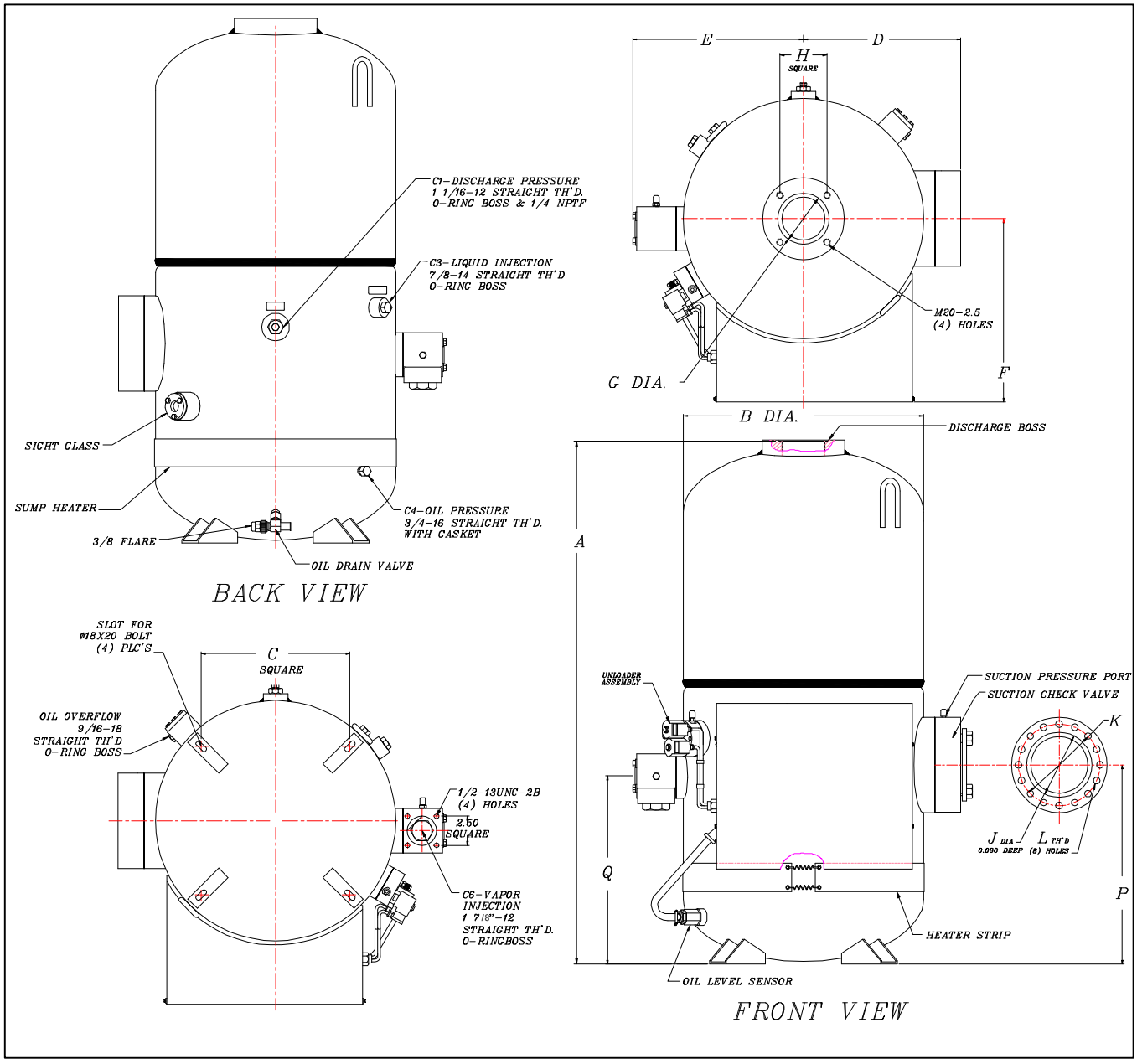
ASSEMBLY LEVEL
OEM=Original Equipment Mfg.
RMF= Remanufactured

MOTOR VOLTAGE
AK=200/3/60; AM=220/3/50
BJ=380-460/3/50-60; BK=200-230/3/50-60
CA=500-575/3/50-60; CS=346-400/3/50-60
CU=400-480/3/50-60; CV=660/3/50
CW =690/3/50

START METHOD
0=Two step-double-delta

CONTROL VOLTAGE
c=115/1/50-60
J=230/1/50-60

Outline Drawings



Model	A	B	C	D	E	F	G	H	J	K	L	P	Q
1222/27	56.3 (1430)	24.4 (620)	14.9 (379)	16.3 (413)	16.4 (417)	18.5 (469)	5.19 (131.7)	4.8 (122.2)	6.3 (161)	7.6 (194)	M16X2	19.9 (506)	18.8 (477)
1230	56.3 (1430)	24.4 (620)	14.9 (379)	16.3 (413)	16.4 (417)	18.5 (469)	5.19 (131.7)	4.8 (122.2)	6.3 (161)	7.6 (194)	M16X2	20.8 (506)	19.7 (477)

Rotary Motion Operation

For clarity reasons, the compressor operation description will be limited to one lobe on the male rotor (right) and one interlobe space of the female rotor (left). In actual operation, as the rotors turn all of the male lobes and female interlobe spaces interact with a uniform gas flow.

Suction Phase— As a lobe of the male rotor begins to unmesh from an interlobe space in the female rotor, avoid is created and suction gas is drawn in through theinlet port. As the rotors continue to turn the interlobespace increases in size, and gas flows continuously intothe compressor. Suction is sealed off when the interlobespace reaches its maximum volume.

Compression Phase—As rotation continues, the gas in the interlobe space is carried around the circumference of the compressor housing. Further rotation meshes male and female lobes thus reducing interlobe volume. Positive displacement compression continues in the direction of the discharge port.

Discharge Phase—At a point determined by the designed "built-in" compressor volume ratio (V), the discharge port is uncovered and the compressed gas is discharged by further meshing of the male and femaleinter lobe space. While the meshing point of a pair of lobes is moving axially, the next charge is being drawnin to the unmeshed portion and the working phase of the compressor cycle are repeated.


HARTFORD®
COMPRESSORS