

Basic Specification	
Model	YS24U3G-100
Type	Low Side Scroll Compressor
Application	Medium Temp. Refrigeration
Power	3.5 HP
Capacity (BTU/Hr)	22922
Refrigerant	R454C
Displacement (in³/Rev)	3.54
Compressor Weight With Oil (lbs)	72.7
Oil Type	POE
Oil Kinematic Viscosity (cSt, 104°F)	68
Oil Primary Charge (oz)	54.1
Oil Recharge (oz)	49.0
Rated Speed (r/min)	3500
IP Class Of Terminal Box	IP54
Compressor Colour	Black

Performance Specifications	
Cooling Capacity (BTU/hr)	22922±7.5%
Input Power (W)	3158±7.5%
EER (BTU/Wh)	7.26±7.5%
Rated Operating Current (A)	14.8
Oil Circulation Rate(%)	≤1%
Rated Sound Power (dBA)	73
Max. Sound Power (dBA)	78
Max. Vibration Displacement (mil)	≤3.9

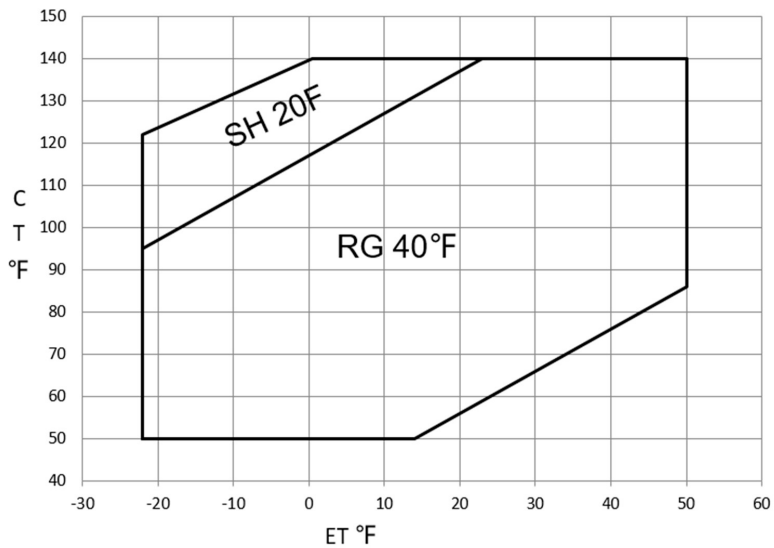
Test Condition	Rated Cooling	Oil Cirulation	Sound & Vibration
Evaporating Temp. (°F)	20	20	20
Condensing Temp. (°F)	120	120	120
Return Gas Temp. (°F)	40	40	40
Liquid Temp. (°F)	120	120	120
Ambient Temp. (°F)	95	95	95

Electric Parameters	
Motor Type	Three Phase Induction Motor
Motor Poles	2
Power Supply	208-230V/1~/60Hz
Locked Rotor Current (A)	109
Max. Operating Current (A)	22.9
Motor Insulation Class	B
Line to Line Resistance (Ω, 77°F)	UW(RC) 0.575± 10%
	UV(SC) 1.348± 10%
	VW(RS) 1.923± 10%
Lowest Starting Voltage (V)	177
Start Capacitor(μF/V)	250/330

Start Relay	HLR3800-3H3D
Run Capacitor(μF/V)	80/450
Dielectric Strength	2000VAC / 1s / 60Hz ≤5mA
Insulation Resistance (MΩ)	≥20
Ground Resistance(Ω)	≤0.1

Safety Operating Limitation	
Tightness Test Pressure (psig)	551-580
High Side Max Running Pressure(psig)	328.8
Low Side Max Running Pressure(psig)	76.3
Discharge Temp. Limit (°F)	≤257 4.72in to Compressor Discharge Connection And Well Insulated

Compressor Operating Envelope



Performance Table									
Item	ET, °C C.T. (°C)	-20	-10	0	10	20	30	40	50
Cooling Cap (BTU/hr)	140			10370	14479	18927	23955	29800	36697
	130		9133	12967	17021	21521	26707	32816	40084
	120	7440	11103	14842	18908	23525	28934	35373	43076
	110	8941	12469	16179	20322	25122	30822	37656	45861
	100	9945	13403	17150	21436	26485	32539	39835	48607
	90	10631	14086	17936	22431	27795	34271	42094	51500
	80	11175	14692	18710	23480	29225	36187	44602	54707
	70	11755	15401	19654	24764	30956	38471	47546	58416
	60	12547	16387	20939	26456	33159	41293	51091	62792
	50	13730	17831	22748	28738	36020	44838	55428	68026
Power (W)	140			3503	3666	3813	3948	4072	4189
	130		3033	3189	3330	3460	3579	3691	3798
	120	2632	2782	2917	3040	3154	3261	3363	3462
	110	2433	2562	2679	2787	2888	2985	3079	3174
	100	2257	2368	2470	2565	2656	2745	2835	2928
	90	2096	2192	2281	2366	2450	2534	2622	2715
	80	1944	2027	2106	2184	2263	2346	2434	2531
	70	1793	1866	1938	2011	2088	2172	2264	2366
	60	1636	1702	1769	1841	1919	2006	2104	2216
	50	1467	1528	1594	1666	1748	1841	1948	2071

- » Performance Data Sheet Is Based On Limited Compressor Tests and Data Treatment, It Is Only a Reference for Compressor Selection.
- » Return gas temperature within Envelope is 40°F, and Liquid Subcooling is 0F;

Compressor Protection
Motor Protector

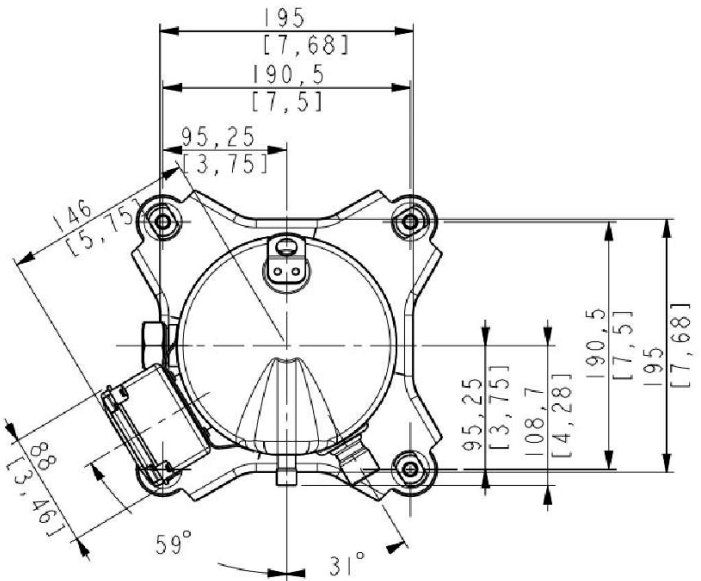
Internal Protector For Motor Protection	
Open Temp.(°F)	239±9
Close Temp.(°F)	142±16
Short Time Trip	78A 2-10s

Accessory

Item	Drawing/Standard No.	Quantity
Grommet	070-0003-00	4
Sleeve	010-0014-00	4
StartBox	110-0076-01	1

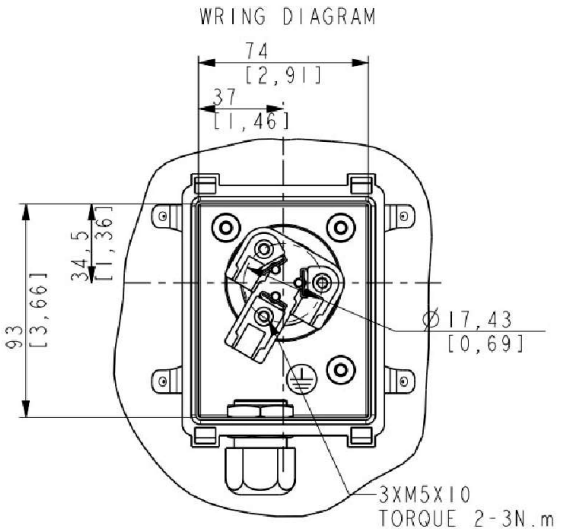
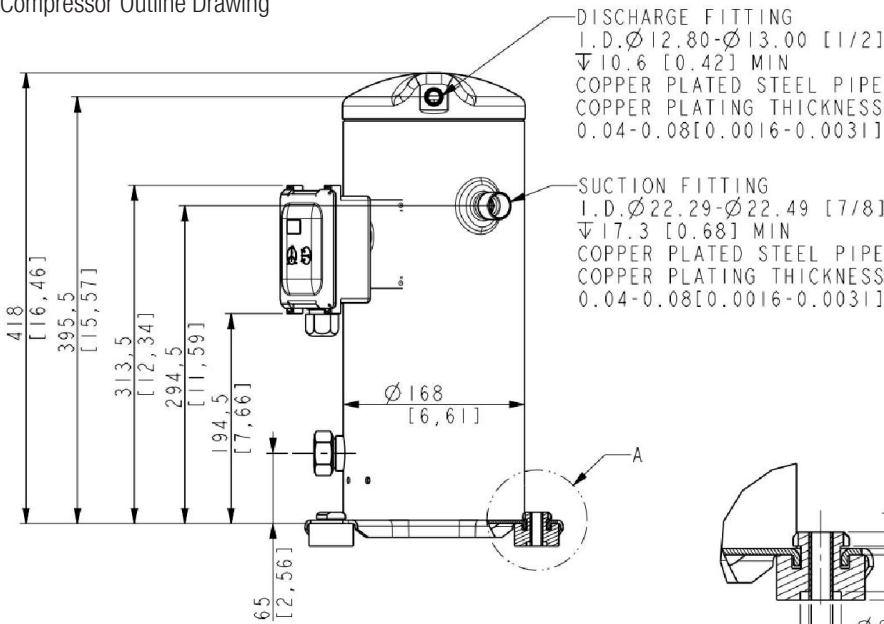
Attentions

- » It is not allowed to perform vacuum in the system by using the refrigeration compressor. The compressor can start only after the refrigerant is charged;
- » It is not allowed to charge the refrigerant from the suction or discharge line closes to the compressor. The charge port should be arranged on the connection pipe of suction line accumulator or receiver, which is far away from the compressor, to avoid the liquid refrigerant flooding back;
- » The refrigerant charge amount complies with local regulations;
- » It is not allowed to run compressor in vacuum, not allowed to run compressor without refrigerant, and not allowed to run compressor in the reversed direction for long duration;
- » The compressor can only work with approved refrigerants;
- » The compressor is not allowed to work outside its envelope. System design should guarantee the suction line superheat and avoid the liquid refrigerant flooding back;
- » When the suction and discharge plugs are removed, the assembly and brazing should be done in 15 minutes;
- » The frequently start/stop compressor should be avoided. The suggested minimum continuous running time is 10 minutes to guarantee the safe oil level ($\geq 50\%$ initial charge volume), the suggested minimum interval between start and stop is 3 minutes.
- » A 70W crankcase heater is recommended to avoid the refrigerant migration during the off circle and flooded start. The crankcase heater should be powered on 12 hours earlier before the first start or restart after long duration off;
- » The system should be equipped with necessary protection devices for pressure, temperature, oil return, overcurrent and phase fault, etc.
- » The compressor is not allowed to lay down or place upside down during transportation, stock and installation. The maximum inclination is 15° when the compressor is running.

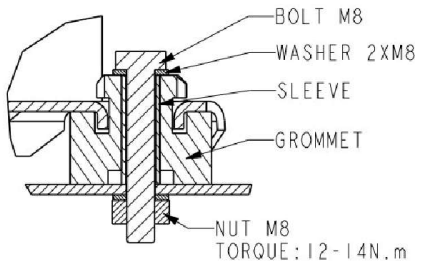
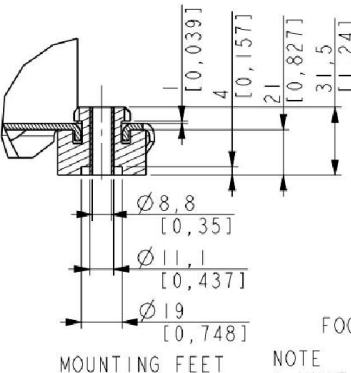
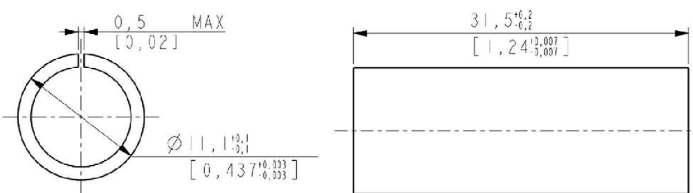


Wring Diagram

Compressor Drawings
Compressor Outline Drawing

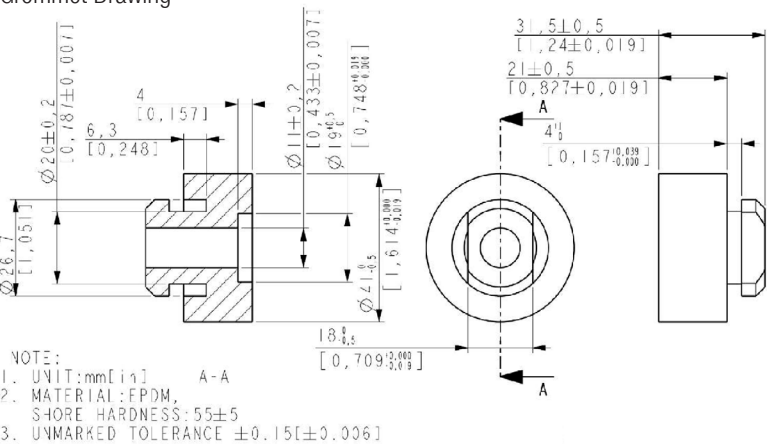


Mounting Sleeve Drawing



NOTE
1. UNIT:mm[in]
1. ALL TOLERANCES UNLESS
OTHERWISE SPECIFIED: $\pm 3 [0.12]$, $\pm 3^\circ [0.12^\circ]$

Grommet Drawing



Single Phase Compressor Wiring Diagram
Only for single phase

