INVOTECH
CENTRO DE DISTRIBUCIÓN MÉXICO
INNOVATION HVAC/R SOLUTION

SCROLL COMPRESSOR
TECHNICAL DATASHEET: YS40U7G-100

ISO 9001:2015

Basic Specification	
Model	YS40U7G-100
Type	Low Side Scroll Compressor
Application	Medium Temp. Refrigeration
Power	6 HP
Refrigerant	R454C
Capacity (BTU/Hr)	38078
Displacement (in^3/Rev)	6.00
Compressor Weight With Oil (lbs)	72.7
Oil Type	POE
Oil Kinematic Viscosity (cSt,104°F)	32
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

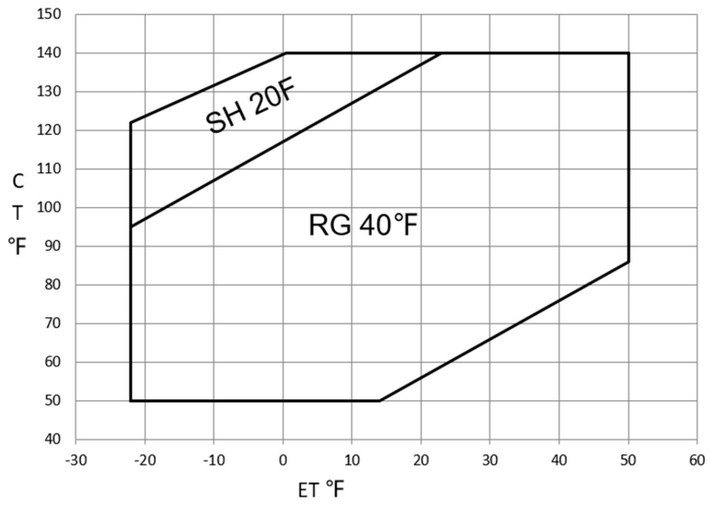
Performance Specifications	
Cooling Capacity (BTU/hr)	38078±7.5%
Input Power (W)	4932±7.5%
EER (BTU/Wh)	7.72±7.5%
Rated Operating Current (A)	16.0
Oil Circulation Rate(%)	≤1%
Rated Sound Power (dBA)	76
Max. Sound Power (dBA)	81
Max. Vibration Displacement (mil)	≤3.9

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/3~/60Hz
Locked Rotor Current (A)	167.0
Max. Operating Current (A)	23.0
Motor Insulation Class	B
Line to Line Resistance (Ω,77°F)	0.605±10%
Lowest Starting Voltage (V)	177
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

Operating Envelope



Performance Table									
Item	E.T.(°C) / C.T.(°C)	-20	-10	0	10	20	30	40	50
Cooling Cap. (BTU/hr)	140			17193	24004	31378	39715	49405	60840
	130		15142	21498	28220	35679	44278	54406	66455
	120	12335	18408	24607	31347	39001	47970	58644	71415
	110	14824	20672	26823	33692	41650	51099	62430	76033
	100	16487	22221	28433	35539	43910	53947	66042	80585
	90	17625	23353	29736	37188	46082	56818	69787	85382
	80	18527	24358	31020	38927	48452	59994	73946	90698
	70	19489	25534	32584	41057	51322	63781	78826	96848
	60	20802	27168	34715	43861	54975	68459	84704	104102
	50	22764	29561	37715	47645	59718	74338	91894	112780
Power (W)	140			5480	5733	5964	6175	6370	6552
	130		4744	4988	5209	5411	5598	5773	5940
	120	4117	4351	4562	4755	4933	5100	5259	5415
	110	3806	4007	4190	4359	4517	4669	4816	4964
	100	3530	3704	3863	4012	4154	4294	4434	4579
	90	3278	3428	3567	3701	3832	3964	4101	4247
	80	3040	3170	3294	3416	3540	3669	3807	3959
	70	2804	2918	3030	3145	3266	3397	3541	3701
	60	2559	2662	2768	2880	3002	3138	3291	3466
	50	2295	2390	2493	2606	2734	2880	3047	3239

» 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)	266±9
Close Temp.(°F)	158±18
Short Time Trip	112A 3-10s

High Pressure Relieve

Internal Pressure Protection	
Internal Pressure Relieve Valve Opening Pressure Difference (psi)	575.7-625.0

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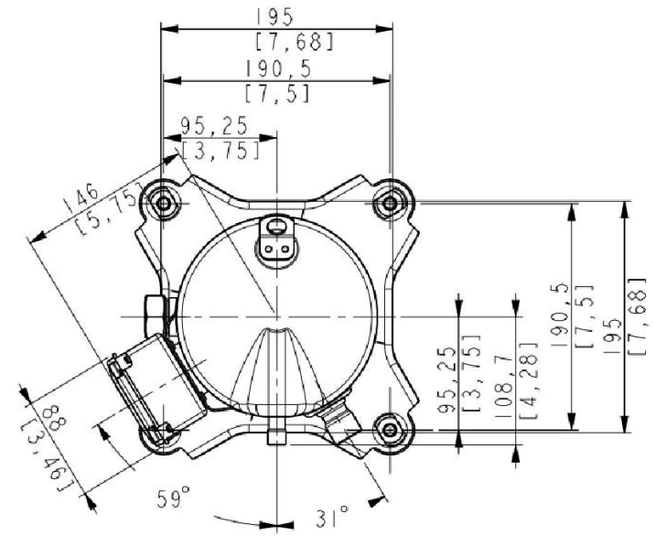
Accessory

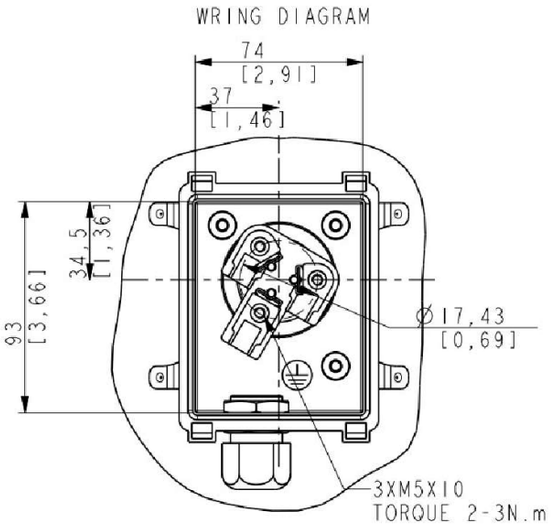
Item	Drawing/Standard No.	Quantity
Grommet	070-0003-00	4
Sleeve	010-0014-00	4



Attentions

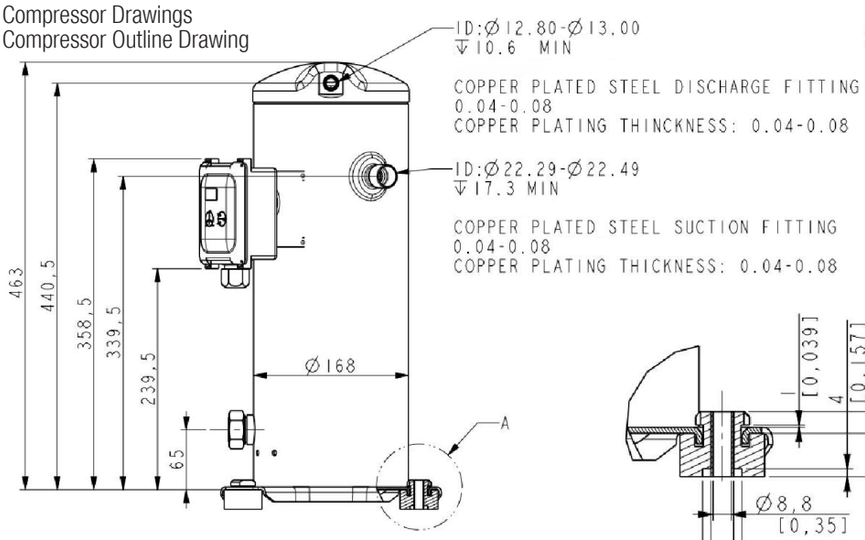
- » It is not allowed to perform vacuum in the system by using the refrigeration compressor. The compressor can start only after the refrigerant is charged;
- » It is not allowed to charge the refrigerant from the suction o discharge line closes to the compressor. The charge port should be arranged on 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 (>=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.

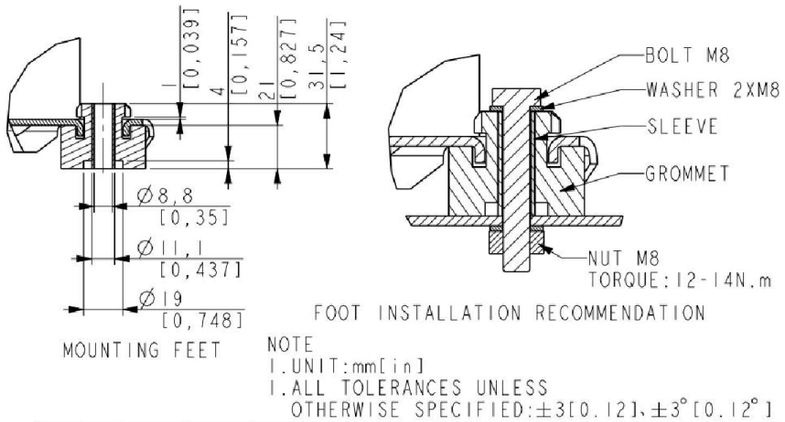
Wring Diagram



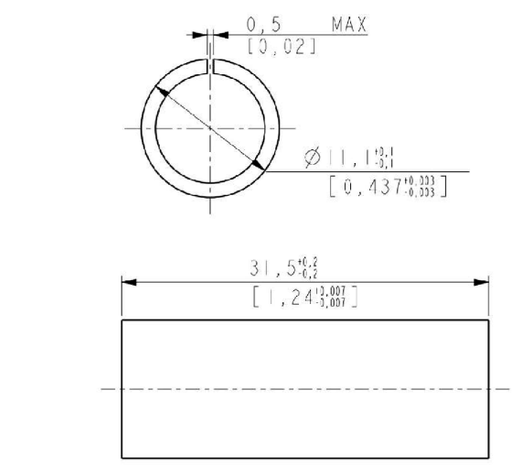
Compressor Drawings

Compressor Outline Drawing

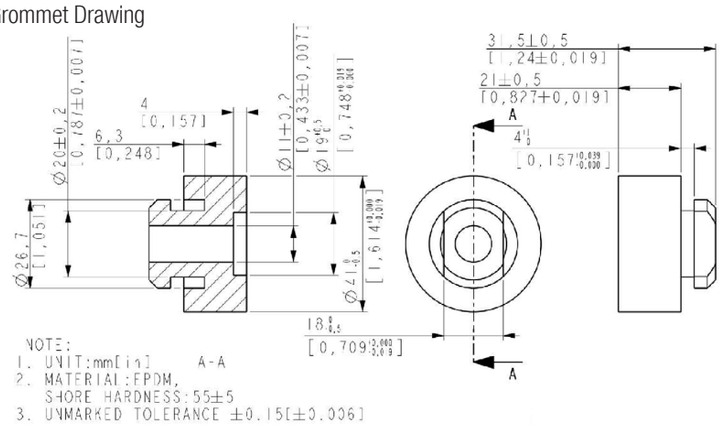




Mounting Sleeve Drawing



Grommet Drawing



Application Guideline

- » See Details in the Application Guidelines for Invotech YS****U***_R454C.