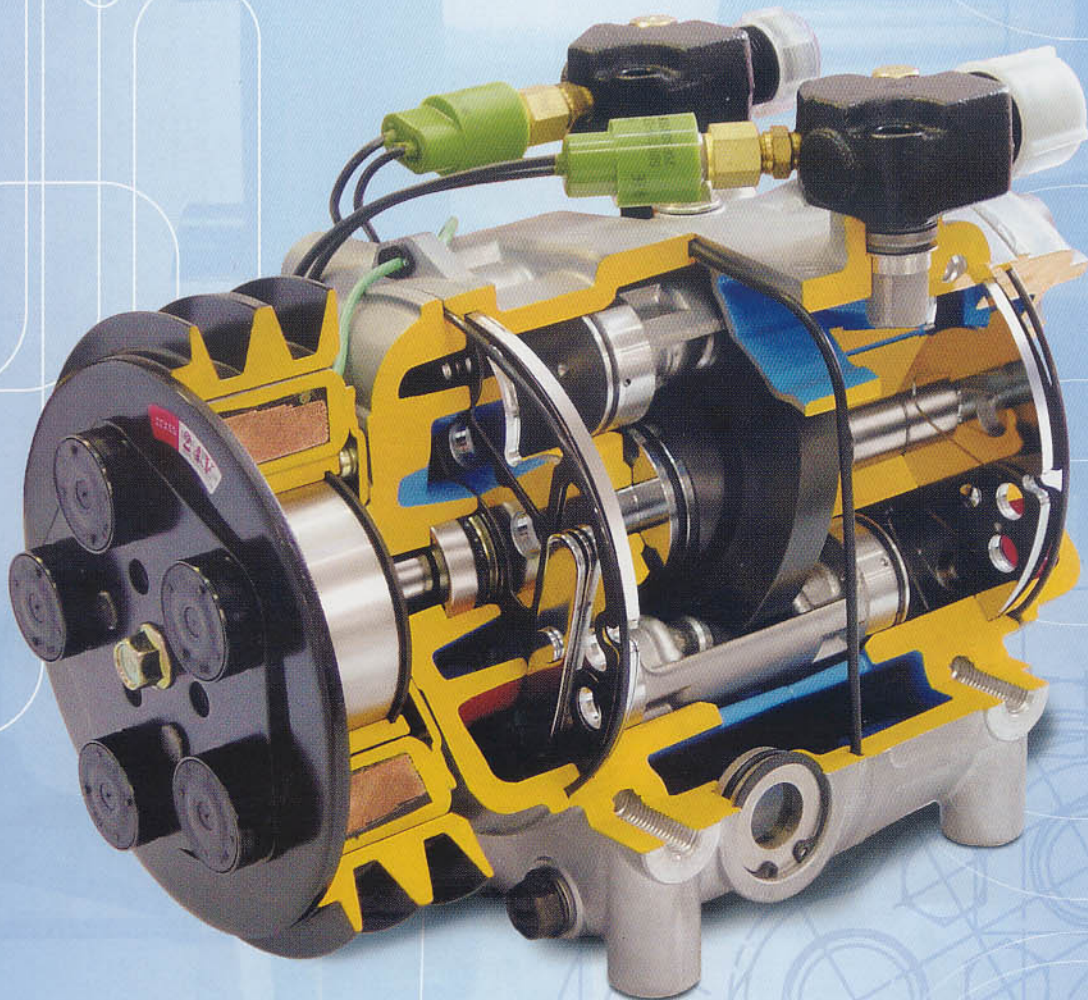


ZEXEL

Valeo
Compressors

DKS-32 性能先进、 品质优良的压缩机



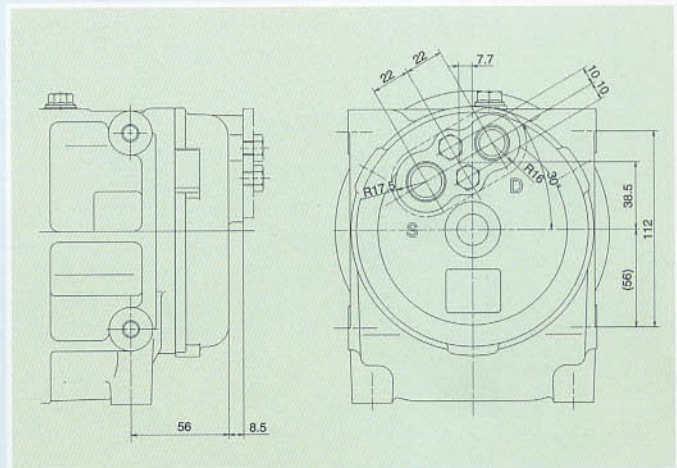
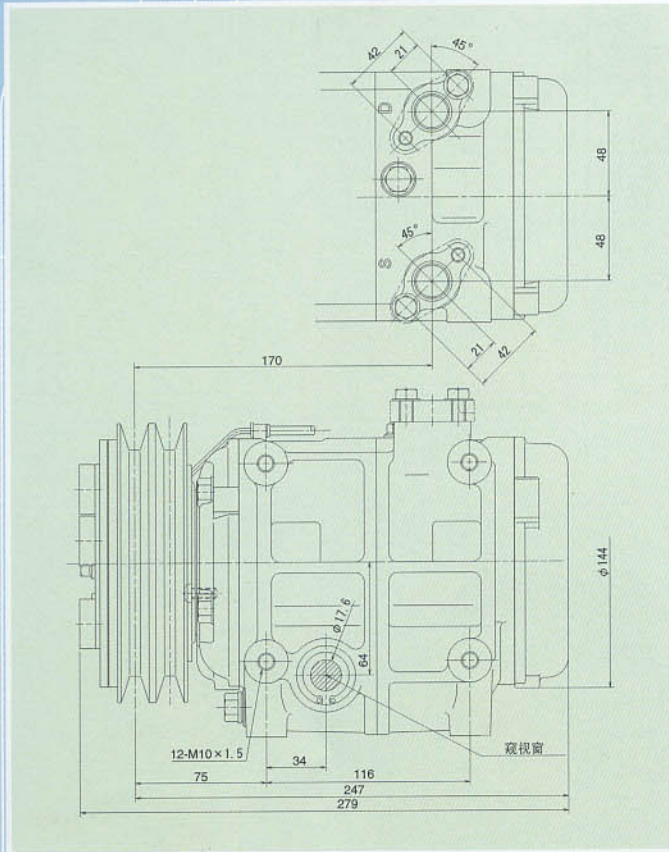
TM31-HD

法雷奥热系统(日本)公司

持久耐用的 DKS-32 压缩机

DKS-32 压缩机特性

- 排量大 / 持久耐用
- 圆滑的旋转
- 效率高
- 寿命长
- 科学合理的润滑系统
- 具有窥视窗



规格

压缩机

型号	DKS-32
种类	旋转斜盘式
缸数	10
缸径	36mm
行程	30.7mm
排量	313cc
最高转速	6000 转 / 分 (7000 转 / 分 瞬间转速)
转动方向	从离合器方向看为顺时针方向
润滑系统	强制压送供给润滑系统
润滑油	ZXL 100PG(DH-PS): 500CC
制冷剂	HFC-134a
重量	9.5kg

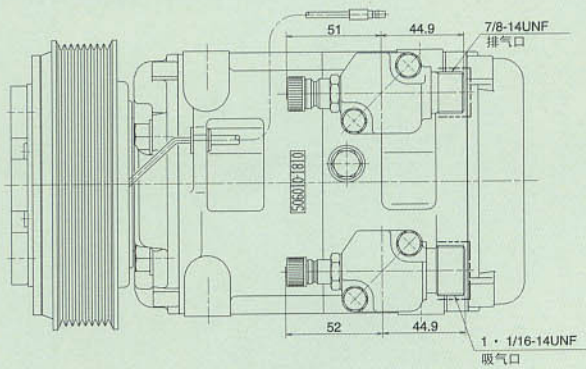
电磁离合器

种类	电磁单片干式离合器
额定电压	12V DC 或 24V DC
耗电量	最大 48w
静止转矩	78N.m
转动方向	从前部看为顺时针方向
重量	约 4.5kg
皮带种类	2A 型, B 型带肋或 V 型带细

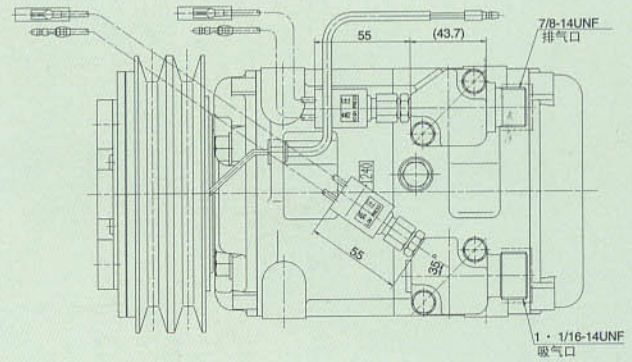
TM31-HD

TM31-HD

吸气口和排气口的连接器



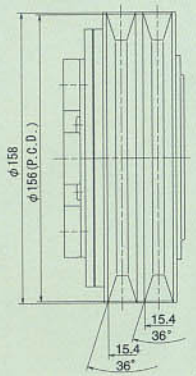
配有制冷剂注入接头的压缩机



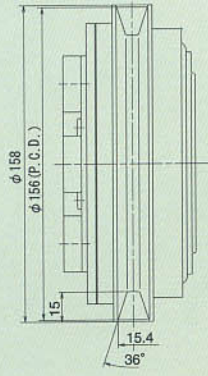
配有压力开关的压缩机

电磁离合器种类

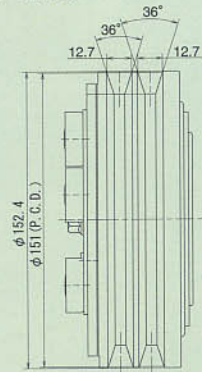
156-2BG



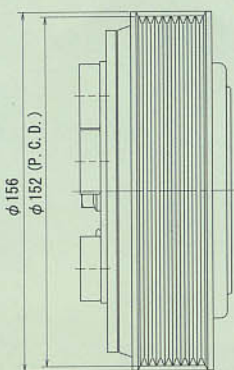
156-1BG



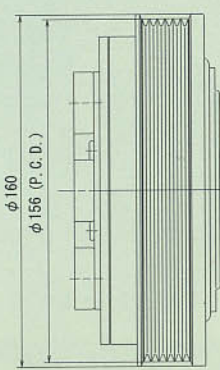
151-2AG



152-8Pk



156-6Pk

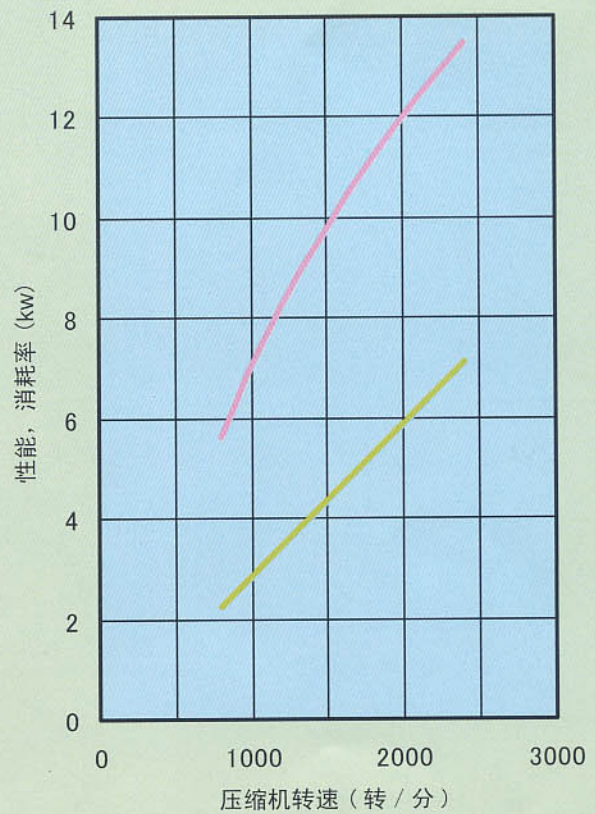


性能图

DKS-32 性能图

测试条件
 排气压力: 1.52MPa (表压)
 吸气压力: 0.18MPa (表压)
 过热度: 10 °C, 过冷度: 5 °C

— Q(kw)
 — P(kw)



TM-31 Compressors

3E = 3-Eye Armature

HFC 134-a Compatible

Compressor Assembly	
New Part Number	Old Part Number
435-46500	488-46500
435-46510	488-46510
435-46520	488-46520
435-46530	488-46530
435-46540	488-46540
435-46550	488-46550

COMPRESSOR		
Type	Mount Style	Oil
TM31	Direct	Y
TM31	Direct	Y
TM31	Direct	Y
TM31	Direct	Y
TM31	Direct	Y
TM31	Direct	Y

MANIFOLD	
Fitting Type	Fitting Description
Bolt	1-1/16 x 7/8
Bolt	1-1/16 x 7/8
Bolt	1-1/16 x 7/8
Bolt	1-1/16 x 7/8
Bolt	1-1/16 x 7/8
Bolt	1-1/16 x 7/8

CLUTCH			
Pulley Diameter (mm)	Pulley Type	Notes	Voltage (V)
152	2A	3E	12
152	2A	3E	24
152	2B	3E	12
152	2B	3E	24
152	8PV	3E	12
152	8PV	3E	24



TM-31 & DKS-32 Compressor Performance and Durability Test Results

Table of Contents:

For TM-31 / DKS-32 Compressor

1. Specification -----	3
2. Configuration -----	4
3. Performance -----	5
4. Operating Envelop -----	6
5. Durability Test Items & Abstract -----	7

1. TM-31 / DKS-32 Specification

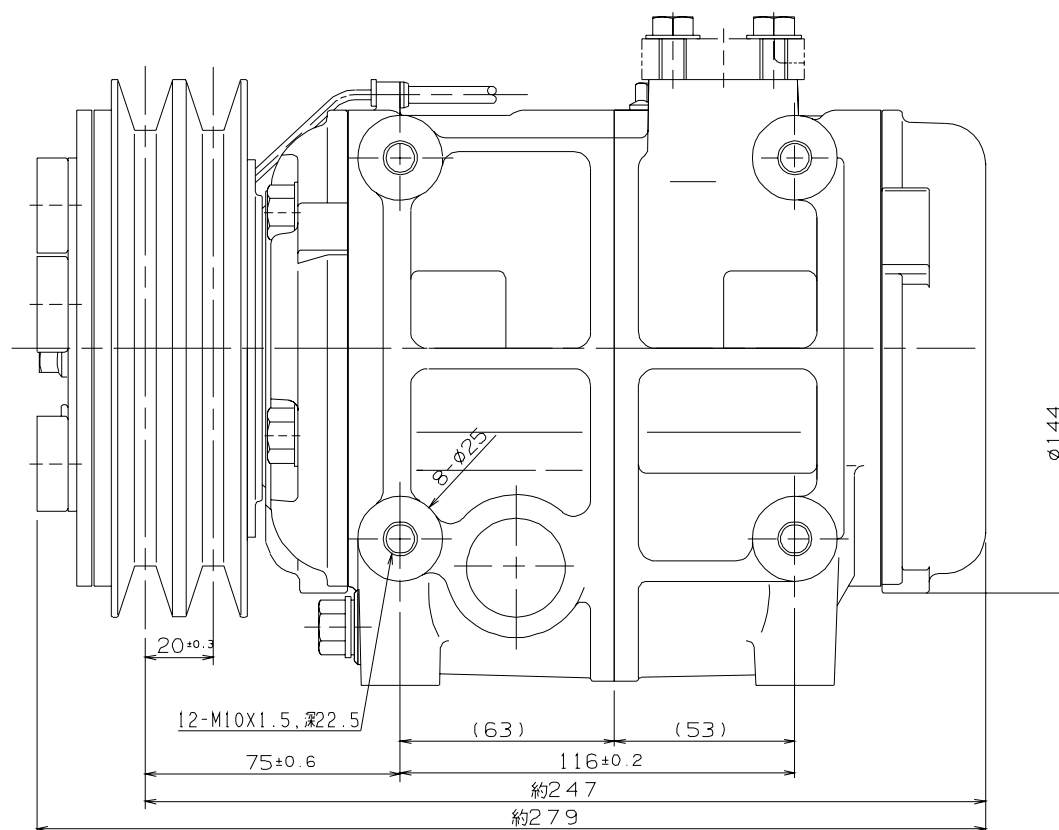
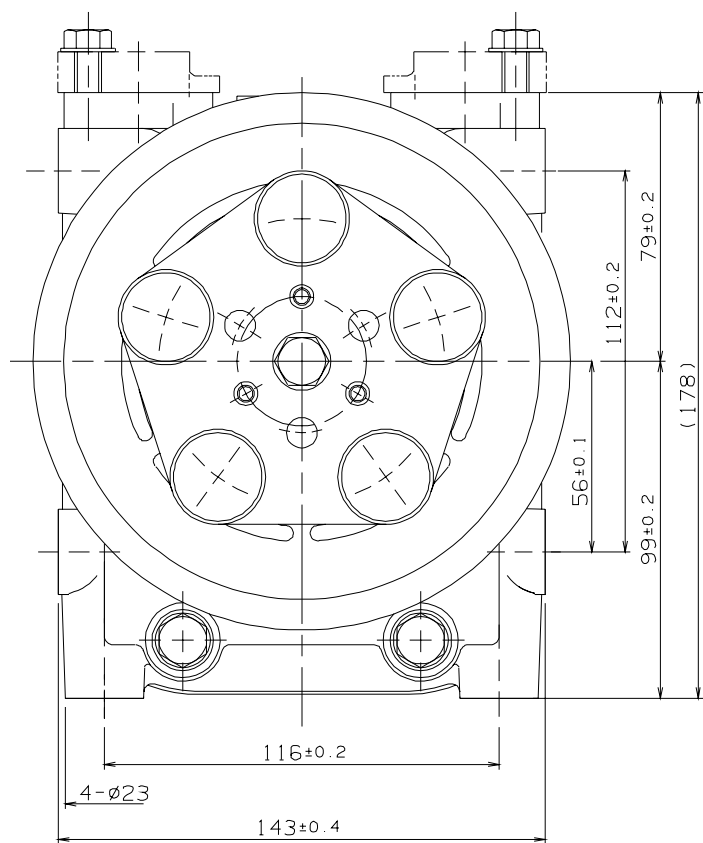
COMPRESSOR

Model	TM-31 / DKS - 32
Type	Swash-plate type
Number of cylinder	10
Bore	36 mm (1.42 in)
Stroke	30.7 mm (1.21 in)
Displacement	313 cm ³ (313 cc , 19.1 cu in)
Maximum speed	6,000 r/min (7,000 rpm momentarily)
Direction of rotation	Clockwise, viewed from clutch
Lubrication system	Pressure-feed type (With Oil Pump)
Lubricant	ZXL 100PG (DH-PS), 500 cm ³ (500 cc, 30.5 cu in)
Refrigerant	HFC-134a
Shaft seal	Lip seal type
Weight	9.5 kg (21 lbs)

MAGNETIC CLUTCH

Type	Electromagnetic single-plate dry clutch
Rated voltage	DC 24 V, DC 12 V
Current consumption	48 W (maximum)
Static torque	78 Nm (8.0 kgf·m, 58 ft·lbs)
Direction of rotation	Clockwise, viewed from front
Weight	Approx 4.5 kg (10 lbs) {In the case of B type single}
V-belt type	B type, V-ribbed or V-groove

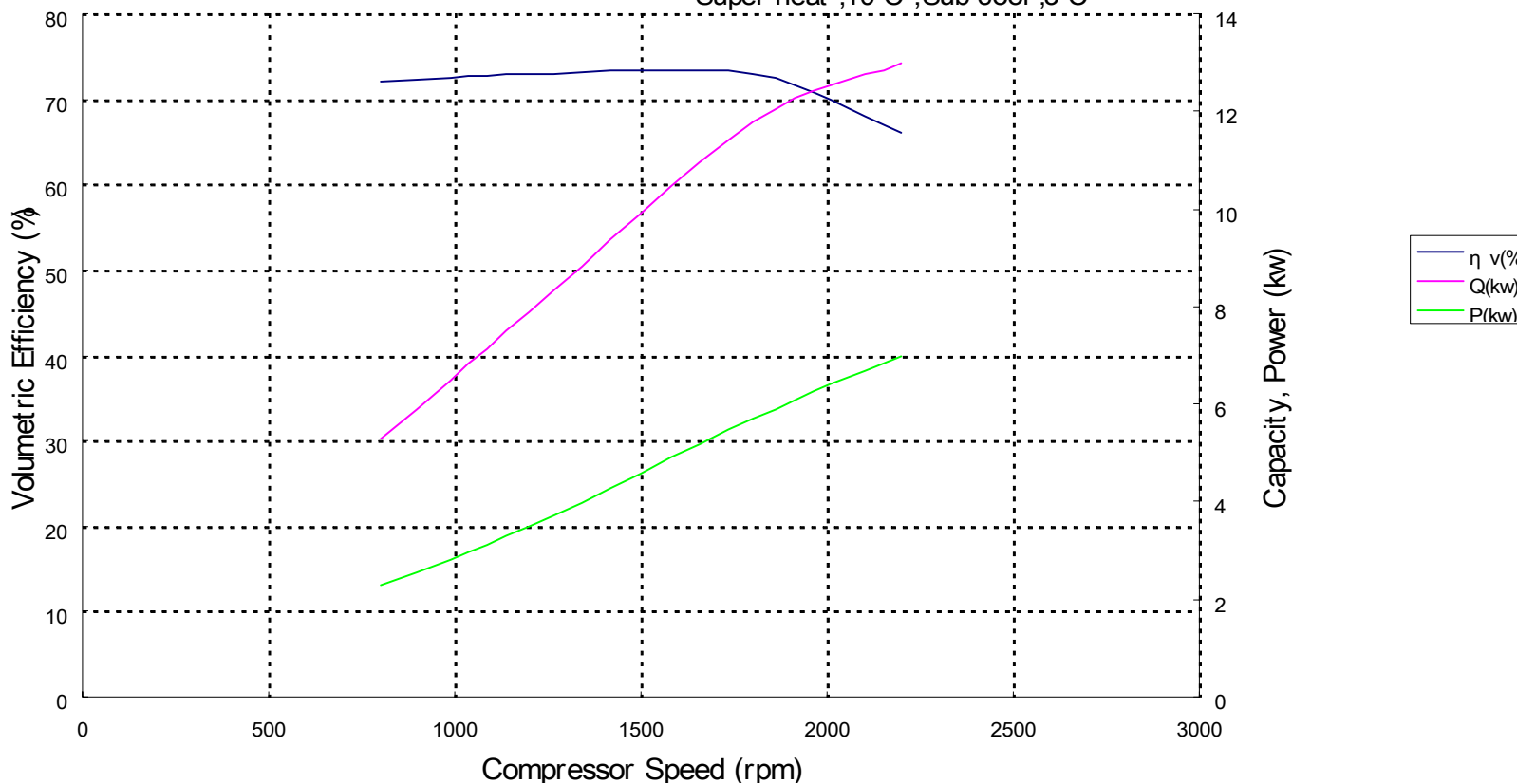
2. TM-31 / DKS-32 Configuration



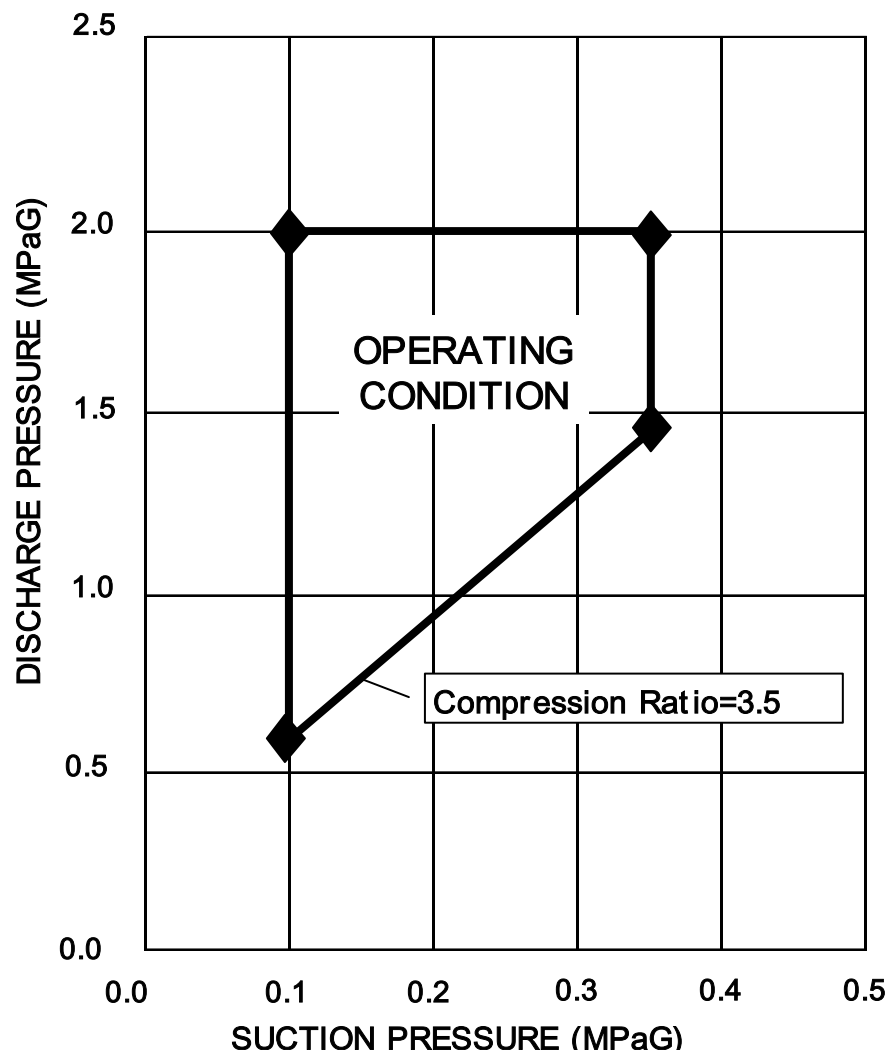
3. TM-31 / DKS-32 Performance

TM-31 / DKS-32 PERFORMANCE

TEST CONDITIONS Dis.Pressure ;1.52MPa(gage)
 Suc.Pressure ;0.18MPa(gage)
 Super heat ;10°C ,Sub cool ;5°C



4. TM-31 / DKS-32 Operating Envelope



TM- 31 / DKS- 32 Operating Envelope

1. SUCTION / DISCHARGE PRESSURE

OPERATING CONDITIONS for HFC- 134a.

Inside the quadrangle are the recommended conditions for proper operation.

2. AMBIENT TEMPERATURE

Under 100 deg C

3. COMPRESSOR SPEED

Maximum: 7,000 rpm (Momentarily)

Continuous: 6,000 rpm

Normal Operation: 1,000 ~ 4,500 rpm

5. TM-31 / DKS-32 Durability Test Items & Abstract

1. Durability performance

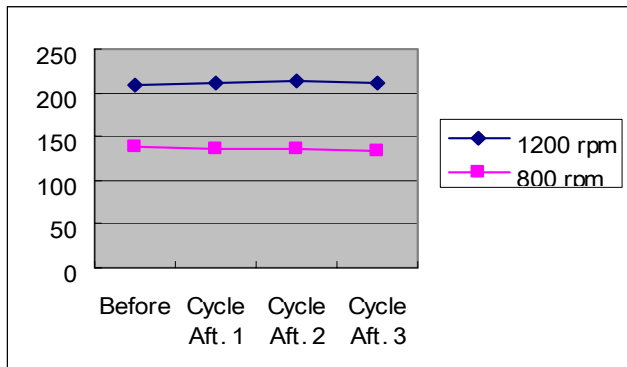
ZVCC concerns that durability capability of TM-31 / DKS-32 compressor is around 8,000 hours. from the performance deterioration after repeated 3 cycle of standard durability tests (1,612 hrs). The repeated 3 cycles durability test equals 500,000 km operation on the vehicle.

2. Durability test condition (Programmed durability test)

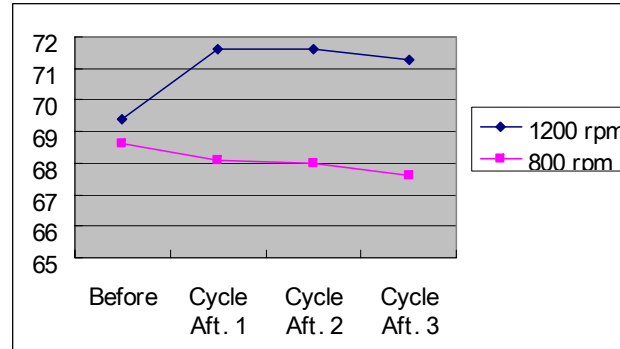
1). Comp. Speed:	4,000 & 5,500 rpm	2). Comp. Speed:	700 & 7,000 rpm	} 1612 hrs x 3 Cycle
Duration:	100, 200, and 250hrs (Total: 950hrs)	Duration:	325 and 6hrs (Total: 662hrs)	
Comp. Dis. Press.:	2.16, 1.47, and 0.69 Mpa	Comp. Dis. Press.:	2.02, 2.75, and 0.69 Mpa	
3). Magnetic Clutch	On- Off operation: 45,000 times			

3. Results of Durability test

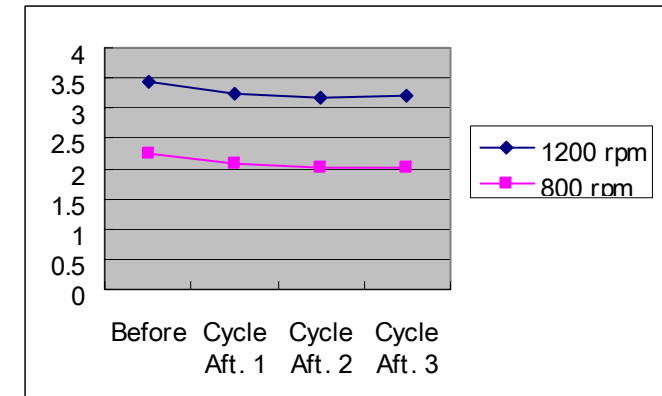
Refrigerant Flow (kg/hr)
(3.2 % down)



Volumetric efficiency (%)
(1.46 % down)



Power (kw)
(No increase)



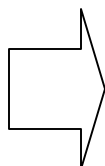
5. TM-31 / DKS-32 Durability Test Items & Abstract

No.	TEST ITEMS and CONDITIONS	CRITERIA	RESULTS	CON- CLUSION
1	PROGRAMMED DURABILITY TEST (1612 hours test)	1. After 1612hrs deterioration of η v shall be 5%Max.	Completed the test. Satisfied the requirement.	OK
2	HIGH SPEED HIGH PRESSURE TEST Compressor speed: 6,000 rpm Condenser Load: 2.2 MPaG MgCl On- Off: 8sec(on) / 15sec(off) Duration: 200 hours	1. There shall be no mechanical breakage, locking, loosenes of tightened part, and no abnormal noise. 2. There shall be no breakage, seizure, damage to produce abnormal noise, adhesion, and abnormal wear on friction surface	Completed the test No damage.	OK
3	LOW SPEED LOW LOAD TEST Compressor speed: 500 rpm Condenser Load: 2.7 MPaG Duration: 500 hours	3. There shall be no seizure and no delay of disengagement of the clutch	Completed the test No damage.	OK
4	LOW REFRIGERANT CHARGE TEST Compressor speed: 4,000 rpm Evaporator Load: 35deg C, 70% Duration of each step 2hours Start refrigeration charge amount from 50% of normal charge. Reduce 10%per step till 10%of refrigerant charge	Must complete 30%step with no failure.	Completed 20%step with no failure.	OK
5	VIBRATION RESISTANCE TEST Acceleration: 30G @200Hz Duration: 200 hrs in axial direction 200 hrs in radial direction	There shall be no damage.	Completed the test with no failure. No leakage and no damage	OK

5. TM-31 / DKS-32 Durability Test Items & Abstract

No	TEST ITEMS and CONDITIONS	CRITERIA	RESULTS	CON- CLUSION
6	LIQUID COMPRESSION TEST	1. The mass flow rate should not decrease by more than 5%	Mass flow rate: less than 5%	OK
	Compressor speed: 3,000 rpm			
	Condenser Load: 40 deg C	2. The power consumption should not increase by more than 3%	Power consumption:	
	Duration: 600 times		less than 3%	

System set up for LIQUID COMPRESSION TEST



System set up

