

A/C System Service

Pressure Test Chart

TEST RESULTS	RELATED SYMPTOMS	PROBABLE CAUSE	REMEDY
Discharge (high) pressure abnormally high	After stopping compressor, pressure drops to about 200 kPa (2.0 kgf/cm ² , 28 psi) quickly, and then falls gradually.	Air in system	Discharge, evacuate and recharge the system. Evacuation: see page 22-35 Recharging: see page 22-36
	No bubbles in sight glass when condenser is cooled by water.	Excessive refrigerant in system	Discharge, evacuate and recharge the system.
	Reduced or on air flow through condenser.	<ul style="list-style-type: none"> Clogged condenser or radiator fins Condenser or radiator fan not working properly 	<ul style="list-style-type: none"> Clean. Check voltage and fan speed. Check fan direction.
	Line to condenser is excessively hot.	Restricted flow of refrigerant in system	<ul style="list-style-type: none"> Expansion valve Restricted lines
Discharge pressure abnormally low	Excessive bubbles in sight glass; condenser is not hot.	Insufficient refrigerant in system	<ul style="list-style-type: none"> Check for leak. Charge system.
	High and low pressures are balanced soon after stopping compressor. Low side is higher than normal.	<ul style="list-style-type: none"> Faulty compressor discharge or inlet valve Faulty compressor seal 	Replace compressor.
	Outlet of expansion valve is not frosted, low pressure gauge indicates vacuum.	<ul style="list-style-type: none"> Faulty expansion valve Moisture in system 	<ul style="list-style-type: none"> Replace. Flush and discharge, evacuate and recharge the system.
Suction (low) pressure abnormally low	Excessive bubbles in sight glass; condenser is not hot.	Insufficient refrigerant	<ul style="list-style-type: none"> Check for leaks. Discharge, evacuate and recharge the system. Charge as required.
	Expansion valve is not frosted and low pressure line is not cold. Low pressure gauge indicates vacuum.	<ul style="list-style-type: none"> Frozen expansion valve Faulty expansion valve 	Replace the expansion valve.
	Discharge temperature is low and the air flow from vents is restricted.	Frozen evaporator	Run the fan with compressor off, then check A/C thermostat.
	Expansion valve is frosted.	Clogged expansion valve	Clean or replace.
	Receiver/dryer is cool (should be warm during operation).	Clogged receiver/dryer	Replace.
Suction pressure abnormally high	Low pressure hose and check joint are cooler than the temperature around evaporator.	<ul style="list-style-type: none"> Expansion valve open too long Loose expansion valve 	Repair or replace.
	Suction pressure is lowered when condenser is cooled by water.	Excessive refrigerant in system	Discharge, evacuate and recharge the system.
	High and low pressure are equalized as soon as the compressor is stopped, and both gauges fluctuate while running.	<ul style="list-style-type: none"> Faulty gasket Faulty high pressure valve Foreign particle stuck in high pressure valve 	Replace the compressor.
Suction and discharge pressure abnormally high	Reduced air flow through condenser.	<ul style="list-style-type: none"> Clogged condenser and/or radiator fins Condenser or radiator fan not working properly 	<ul style="list-style-type: none"> Clean condenser and/or radiator. Check voltage and fan speed. Check fan direction.
	No bubbles in sight glass when condenser is cooled by water.	Excessive refrigerant in system	Discharge, evacuate and recharge the system.
Suction and discharge pressure abnormally low	Low pressure hose and metal end areas are cooler than evaporator.	Clogged or kinked low pressure hose parts	Repair or replace.
	Temperature around expansion valve is too low compared with that around receiver/dryer.	Clogged high pressure line	Repair or replace.
Refrigerant leaks	Compressor clutch is dirty.	Compressor shaft seal leaking	Replace compressor.
	Compressor bolt(s) are dirty.	Leaking around bolt(s)	Tighten bolt(s) or replace compressor.
	Compressor gasket is wet with oil.	Gasket leaking	Replace compressor.
Compressor heat damage	Black soot inside compressor and hoses.	Restriction or leak in system.	Flush entire system, replace rubber lines or hoses.