



RECIPROCATING AIR COMPRESSORS

USER HANDBOOK



THANKS;

We thank you for choosing HERTZ COMPRESSOR. The main idea of the production of HERTZ COMPRESSOR is to supply our customers with an equipment of user friendly, secure and long life.

Your compressor is designed to serve problem freely for many years. The safety of your machine is sensitively checked at all production points. But no matter how safe the machine is produced, the basic responsibility belongs to the user. In order to enable your compressor to serve you in a proper working way, we recommend you to read the explanations mentioned in this handbook carefully. Either our technical staff or services are always in your service for your all kinds of complaints and requirements.

We wish you good activities

ADRESS : **HERTZ KOMPRESSOREN**
SCHMIDENER WEG 7 70736
Fellbach-Stuttgart / GERMANY

TEL : **++49 (0) 711 993266-4**

FAX : **++49 (0) 711 993266-5**

WEB : **www.hertz-kompressoren.de**

AUTHORISED DEALER / AGENCY CACHET:

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1. CHAPTER

SAFETY



1.1 INTRODUCTION

- ✓ Pay attention to all the safety and operation regulations mentioned in this handbook, this way the accident probability will be minimized and the life time of machine will increase.
- ✓ Do not make any modification on the machine without taking the approval of **HERTZ COMPRESSOR**.
- ✓ Prior the assembly, starting and maintenance of the machine ensure that the handbook is carefully read **and understood** by responsible personnel (technicians, operators, maintenance personnel etc)
- ✓ Ensure that the maintenance and operation of the machine is only made by expert personnel with sufficient training.
- ✓ In case the directives, processes and safety regulations are not complied; it may cause accidents, damage and injuries.
- ✓ If the operation of the compressor is not safe:
 - Never start it.
 - Notify this situation to other related persons.
 - Put a warning label explaining this situation on a visible place of compressor.
 - In order to avoid the uninformed operation of the compressor; turn off the main circuit breaker or remove power cables.

1.2 PERSONAL PROTECTIVE EQUIPMENTS

The company management should be very sensitive and careful for ensuring that the operators of the compressor take all personal safety precautions and to comply with all related standards.

1.3 COMPRESSED AIR LINE CONNECTIONS

- ✓ In order to have efficient running of the compressor; make sure that all devices and equipments you have chosen are in conformity with the compressor's capacity and operation pressure. Choose suitable filter, piping and air hose. The sales and service personnel will help you in this matter.
- ✓ Make sure that none of the air circuit equipment and connections are leaking, deliberately misassembled and are not subject to excessive heat variations and are not subject to harmful (dust, gas, humidity etc) type of corrosive environmental factors.
- ✓ Stop the compressor before removal of any connection or equipment (filter .etc) and make sure that internal pressure is completely discharged. Do not forget that when there is pressure in the compressor and in case of removal of oil tap or some other element; the hot and pressurized oil may splash and cause injuries.
- ✓ Keep the living beings away from the direct outlet of compressed air (nozzle, blow out exit, exhaust etc) and take necessary safety precautions.
- ✓ Do not spray compressed air on living beings. Do not use compressed air for personal cleaning.
- ✓ Do not breathe the compressed air of the compressor. Do not use it for ventilation purpose.

- ✓ Do not make jokes with air hose for avoiding severe accident and injuries.
- ✓ Do not vary the pressure adjustment of safety pressure switch and safety valve. Periodically carry out the functional check of safety valve.

1.4 RISK OF FIRE AND EXPLOSION

- ✓ Do not allow accumulation of oil, petrol, thinner, solvent etc. Inside and around the compressor. Clean immediately if you see.
- ✓ In case of potential fire hazard, immediately stop the compressor and switch off the power. Afterwards, remove everything that may cause flame, spark and other fire constitution reasons. Do not allow smoking around.
- ✓ Never allow accumulation of oil on the outer surface of compressor. If necessary obtain a cleaner that may clean these accumulations. Never use inflammable material in cleaning process.
- ✓ Switch off the power of the compressor in case of repair, cleaning or other treatment.
- ✓ Maintain the electrical and pressure connections in good condition. Immediately replace the damaged cables or hoses. Maintain these connections clean and regularly.
- ✓ Ensure that there is not any loose or broken electrical cable at any point of the compressor. Remove this cable in case of risk of electricity.
- ✓ Keep a full fire extinguisher that is continuously traced near the compressor.
- ✓ Greasy fabric, sawdust, paper etc. type of litters should be kept away from the compressor. (Especially compressor head and collector pipes.)
- ✓ Do not operate the compressor when there is not suitable ventilation.
- ✓ Never run the compressor in severe environmental conditions. If it is not manufactured accordingly.

1.5 MOVING PARTS

- ✓ Do not operate the compressor while the covers are open or belt and fan guards are not installed.
- ✓ Keep your hands, arms and cloths especially the sleeves and skirt ends away from the moving parts of the machinery accessory. Wear cloths that do not fit you loose and if your hair is long, tidy them up or wear banner.
- ✓ Keep away all personnel from compressor to protect from the hazards that may cause by splash, explosion and popping out.
- ✓ In order to avoid accidental operation of the compressor by someone; prior repair, maintenance or adjustment processes remove the main power cable of the compressor from main switch or lock the circuit beaker. If the compressor is remote controlled; ensure that this situation is indicated by a warning label and informed at the remote control room.
- ✓ Protect the walkways and corridors around the compressor from oil and water to avoid slipping or falling.
- ✓ Provide sufficient illumination for making the moving parts visible at the place of operation.

1.6 HOT AND SHARP SURFACES

- ✓ Some equipment (piston head, cooling pipes, collector, oil filter etc) operating inside the compressor may heat up that may cause burns in case of contact. In the meanwhile oil is hot during operation. Do not contact such surfaces. Wear gloves or banners against uncontrollable contacts.

- ✓ If you see oil splash from any place do not try to prevent this by your hand (even if you have glove or cloth in your hand). Only stop the compressor by pressing emergency stop button and switch off the power. For ensuring this place the control box of compressor to the nearest and easily accessible place.
- ✓ Do not put your head or your hands, legs inside the compressor for checking anything. Do not use a stick, bar, wire etc.
- ✓ Do not use your hands for checking belt- pulley group, fan propeller, etc. Do not try to stop rotating and jointed parts by your hands and legs. Your fingers may rupture.
- ✓ Stay away from all discharge points (safety and discharge valves, exhausts, nozzles etc.) that have a direct air outlet from compressor. The delivered air may be very hot.
- ✓ Keep first aid kit in compressor room. In case of any injury contact the doctor. Do not ignore little scratches and cuts that may cause contamination via micro organisms.

1.7 FLAMMABLE AND IRRITANT MATERIALS


- ✓ Do not inhale the compressed air out of compressor.



Directly inhaling the compressed air may cause severe injury and death. Never apply the compressed air to mouth, eyes and ears.

- ✓ Never connect the compressed air directly to the respiratory equipment and to the lines of this equipment.
- ✓ Do not discharge the air of compressor into the rooms in which living beings accomodate.
- ✓ Only operate the compressor at sections (arranged as a compressor room) with sufficient ventilation.
- ✓ Place the compressor away from the sandblasting furnace (pulverous), heating furnace (hot), boiler furnace (humid), dye-chemical finish units (chemical and corrosive) and all kinds of medium that have inflammable, explosive gases not make any suction.
- ✓ The oil used in the compressor is industrial oil. Avoid eyes and skin to contact of this oil. In the case of contact, wash the contact place with plenty of water. For lubrication information of your compressor see the lubrication section of this handbook.

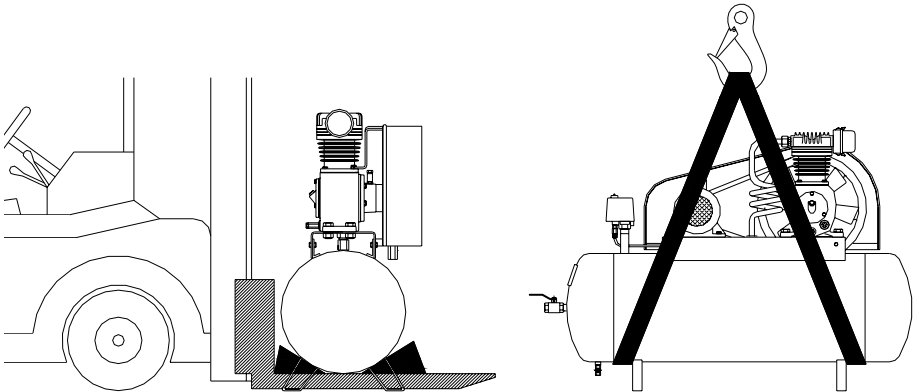
1.8 RISK OF ELECTRIC SHOCK

- ✓ Along with the information and recommendations in this handbook; your compressor should be installed in conformity to all related national and international standards. The electrical wiring works must be performed by a qualified electrician.
- ✓ Ensure that sufficient grounding is made and the grounding cable is connected to part marked with  on the motor and pressure switch.
- ✓ Keep all parts of your body, hand tools and electrically conductive materials away from the current conducting equipment and cable connections.
- ✓ In case of adjustment or repair on the compressor electrical accessory; ensure that your feet are not wet and try to stand on an insulated place like a wooden pallet.

- ✓ Try to make all kinds of repair and adjustment work with single and with right hand if possible. This way, you minimize the risk of heart attack.
- ✓ Make repair and adjustment work at a well laminated, dry, clean and in good ventilated environments.
- ✓ Always keep the control box's door closed. If you need open it, stop the compressor and remove electrical power from main circuit breaker.
- ✓ During the start up after assembly, carefully recheck all equipments and its connections.

1.9 LIFTING AND HANDLING

- ✓ Lift the compressor by forklift. The forklift feet entry places at the bottom are visible.
- ✓ As the depot of your compressor operating on air depot is in cylindrical structure and if no support is used during lifting, in case of sudden start and stop of forklift the compressor may overturn. In order to prevent this support the sides of the forklift that contact with depot with chock as shown in figure.
- ✓ Before lifting the compressor, make sure that the forklift feet are well adjusted.
- ✓ Ensure that the forklift does not lift the compressor excessively; move slowly and carefully.
- ✓ If you should lift the compressor with palette, ensure that the compressor is fixed to the palette first. Never lift the compressor, if the compressor is not properly mounted on the palette or the connections are damaged. Otherwise, you may cause injuries and damage.



- ✓ If the forklift is not available, lift it by crane as shown in figure.
- ✓ Prior the commencement of lifting process, make sure that no damage or rupture at the welding point of the place that the lifting belt will pass at the compressor base.
- ✓ Do not use the compressor head, collector or shelter connections for lifting.
- ✓ Retighten the bolts and screws that may be loosened during transportation.
- ✓ Make sure that all kinds of lifting belts, hooks etc. Are in good condition and capable of carrying the weight of compressor. If you do not know the weight of the compressor, start lifting after learning this.
- ✓ Be careful to avoid the damage of compressor. In case of bumping and falling, damage or hazard may occur at the internal accessories of compressor.
- ✓ Make sure that there is no body underneath the compressor during lifting.
- ✓ Do not over lift the compressor.

- ✓ The operator conducting the lifting process should see the compressor while suspended.

1.10 SUGGESTIONS

- ✓ After repair, maintenance and adjustment works make sure that there is not any spare part, cleaning material or hand tool are left inside.
- ✓ Make sure that all the guards are installed after repair, maintenance or adjustment works.
- ✓ Make sure that none of the moving parts are in contact with any place.
- ✓ Do not leave open electric conducting cables.
- ✓ If the compressor will not be used for a long time; it should be stored at dry and warm environment. **The oil in the carter should be discharged and the compressor unit has to be lubricated with a protective lubricant against corrosion. The belts must be removed or completely loosened.**

1.11 AIR RECEIVER

- ✓ Air receivers are to collect air, do not use for any other purposes. Do not exceed the pressure value indicated on the name plate.
- ✓ The floor on which the compressor is mounted should be capable of carrying the weight of compressor and should be flat.
- ✓ Technical specifications of the receiver are written on the name plate
- ✓ Water must be discharged from the valve beneath the receiver for daily maintenance
- ✓ Without any written approval of the factory, do not make any welding on the receiver
- ✓ Do not make any cutting and piercing on the receiver
- ✓ The designed value of corrosion tolerance is 0,5 mm
- ✓ The receivers were tested up to 1,5 times the working pressure
According to regional regulations every year pressure test must be done to check the air receiver. Please consult your local distributor or technical service
- ✓ Welding points should be checked by eye regularly. If any extraordinary point is seen inform the distributor immediately
- ✓ During the maintenances avoid any impact and operation that will damage the receiver.

2. CHAPTER

INSTALLATION & ASSEMBLY

2.1 INSTALLATION OF THE COMPRESSOR AND CONNECTIONS

- ✓ The floor on which the compressor is mounted should be capable of carrying the weight of compressor and should be flat and dry. Any roughness on the ground may cause your compressor operate with vibration.
- ✓ Beneath the feet of compressor rubber or vibration pads should be placed. Thus the vibration of operation is considerably minimized. Operations with excessive vibration may cause looseness on compressor group and collector pipe connections.
- ✓ The compressor room should be easily accessible and sufficiently illuminated.
- ✓ For adequate service, the compressor room should have a clearance of at least 1.5 meters (4,92 ft) from ceiling and 1m from the wall. In addition, for sufficient cooling there must be minimum distance of 40 cm between compressor pulley and the wall against it.
- ✓ Fire and corrosion causing conditions should be prevented in the operation region.
- ✓ No pipe load (swaggering connections or tensions arise from environmental variations) should be relayed to compressor by external connections.
- ✓ Make sure that the air supply equipment is suitable to the operating pressure of the piping and fittings and is damage free.
- ✓ Select the diameter of the air supply, dryer and line filters according to your air supply capacity.
- ✓ Establish a separate line for condensate of your filter and dryer and air receivers (drain line); this way the floor of the compressor operating place does not unnecessarily get wet.
- ✓ Put an air outlet and electrical receptacle in your compressor room for general purpose.
- ✓ Your compressor is manufactured for **indoor** operation.
- ✓ In case of different needs in relation to compressor or air supply contact service or sales representative.

2.2 ENVIRONMENTAL REQUIREMENTS

- ✓ Place your compressor in a sufficiently ventilated room. The temperature of the room that compressor operates should be at least 0 C° and at most 40 C°. Do not set up your compressor into place with temperature below 0 C°, and if necessary heat the room that your compressor operates.
- ✓ In mediums that the environment temperature drops below 0 C° as the oil in the crankcase of the compressor will condense proper oiling can not be realized from the initial start up until the body temperature reaches normal values. In case of being exposed of direct sunlight or while operating in a very hot region as the temperature of the compressor will very much above the normal the property of oil will change. In each case, the life of rubbing components (piston, piston rings, bearings, crank etc) affected negatively.
- ✓ If your compressor is equipped with cooler prevent direct exposure or regional strong winds of your cooler.
- ✓ In case the compressor operating in mediums containing hazardous gas like dye houses or chemical facilities; it should not be forgotten that these chemicals will shorten the life of oil of compressor, gaskets and seals.

- ✓ Prevent exposure to dust of your compressor in operating mediums. Dust blocks the suction filter and reduces the efficiency of your compressor and by transporting with oil it increases friction. In addition, the cooling channel on the compressor chassis are covered by dust and oil and therefore proper cooling of compressor is prevented. To prevent this regularly clean compressor suction filter and cooling channels and replace your filters that have completed their life cycle.

2.3 ELECTRICAL CONNECTIONS



The electrical wirings prepared without taking into consideration of all necessary safety precautions are dangerous and in this type of cases the responsibility belongs to the user. In order to prevent undesired damage and loses please perform the electrical wiring as indicated in this manual.

- ✓ The compressor has been designed to operate in 1 and 3 phase systems. The voltage and frequency data are written on the name plate of your device. The data related with supply cable and input fuse selection are shown below.
- ✓ Please have a qualified technician to perform the electrical connection in case you have purchased your compressor without control panel.
- ✓ In case of emergency there is an **Emergency Stop Button** on control panel.
- ✓ The control panel should be close to the compressor and easily accessible.
- ✓ The contactor, fuse and all cable and connection elements should be identified with code and easy traceability over the electrical wiring and machine should be provided.

POWER CABLE AND MAIN FUSE INFORMATIONS

SINGLE PHASE COMPRESSORS


MODEL	COMPRESSOR POWER HP/kW	CABLE CROSS SECTION (mm ²)	FUSE CURRENT (A)
HPC-S 1	1,5 / 1,1	3 x 2,5 mm ²	10 A
HPC-S 2	2 / 1,5	3 x 2,5 mm ²	16 A
HPC-T 2/125	2 / 1,5	3 x 2,5 mm ²	16 A
HPC-T 2/200	2 / 1,5	3 x 2,5 mm ²	16 A
HPC-S 3	3 / 2,2	3 x 2,5 mm ²	20 A

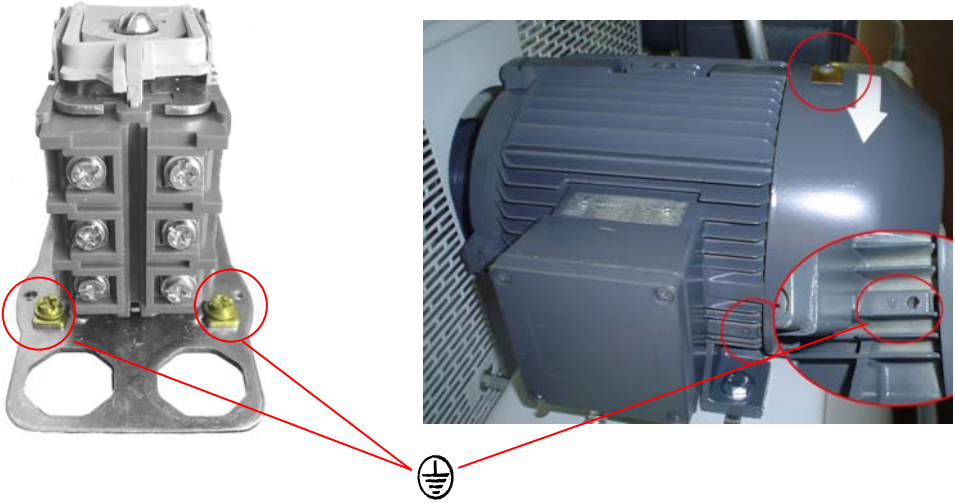
THREE PHASE COMPRESSORS

MODEL	COMPRESSOR POWER (HP/KW)	CABLE CROSS SECTION	OVERLOAD RELAY SET VALUE (A)	MAIN FUSE CURRENT (A)
HPC-S 1	1,5 / 1,1	4 x 2,5 mm ²	2,85 A	3 x 6 A
HPC-S 2	2 / 1,5	4 x 2,5 mm ²	3,8 A	3 x 6 A
HPC-T 2/125	2 / 1,5	4 x 2,5 mm ²	3,8 A	3 x 6 A
HPC-T 2/200	2 / 1,5	4 x 2,5 mm ²	3,8 A	3 x 6 A
HPC-S 3	3 / 2,2	4 x 2,5 mm ²	5,15 A	3 x 10 A
HPC-S 5	5,5 / 4	4 x 2,5 mm ²	8,9 A	3 x 16 A
HPC-T 5	5,5 / 4	4 x 2,5 mm ²	8,9 A	3 x 16 A
HPC-H 5	5,5 / 4	4 x 2,5 mm ²	8,9 A	3 x 16 A
HPC-S 7	7,5 / 5,5	4 x 4 mm ²	11,9 A	3 x 25 A
HPC-T 7	7,5 / 5,5	4 x 4 mm ²	11,9 A	3 x 25 A
HPC-S 10	10 / 7,5	4 x 4 mm ²	15,4 A	3 x 25 A
HPC-T 10	10 / 7,5	4 x 4 mm ²	15,4 A	3 x 25 A
HPC-Booster 10	10 / 7,5	4 x 4 mm ²	15,4 A	3 x 25 A
HPC-H 15	15 / 11	4 x 4 mm ²	22,6 A	3 x 32 A
HPC-Booster 15	15 / 11	4 x 4 mm ²	22,6 A	3 x 32 A
HPC-S 20	20 / 15	4 x 6 mm ²	30,2 A	3 x 40 A
HPC-T 20	20 / 15	4 x 6 mm ²	30,2 A	3 x 40 A
HPC-H 20	20 / 15	4 x 6 mm ²	30,2 A	3 x 40 A
HPC-L 20	20 / 15	4 x 6 mm ²	30,2 A	3 x 40 A
HPC-Booster 20	20 / 15	4 x 6 mm ²	30,2 A	3 x 40 A
HPC-S 25	25 / 18,5	4 x 6 mm ²	36,8 A	3 x 50 A
HPC-T 25	25 / 18,5	4 x 6 mm ²	36,8 A	3 x 50 A
HPC-Booster 25	25 / 18,5	4 x 6 mm ²	36,8 A	3 x 50 A
HPC-L 30	30 / 22	4 x 10 mm ²	43,2 A	3 x 50 A
HPC-Booster 30	30 / 22	4 x 10 mm ²	43,2 A	3 x 50 A
HPC-Booster 40	40 / 30	4 x 16 mm ²	57 A	3 x 63 A
HPC-Booster 50	50 / 37	4 x 16 mm ²	71 A	3 x 80 A
HPC-Booster 60	60 / 45	4 x 25 mm ²	87 A	3 x 100 A
HPC-Booster 75	75 / 55	4 x 35 mm ²	104 A	3 x 125 A


The above mentioned cable lengths are given for 25 meters. If it is necessary to use much longer cable, use one size cross-section larger power cable.

GROUNDING

Connect your grounding cable on the bolt over the pressure switch on your compressor and shown with figure  make sure that your grounding line works properly.

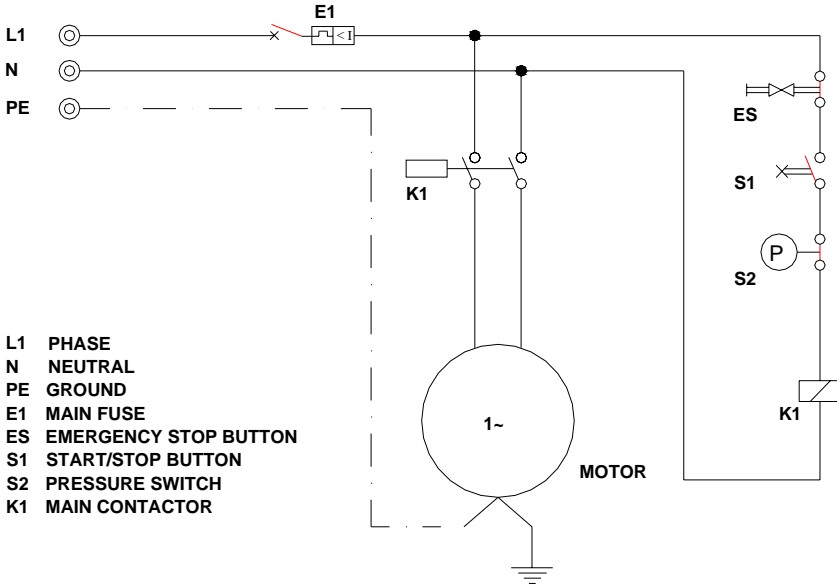


Working without the grounding cable may endanger the internal safety of your personnel and compressor. Please connects your grounding line properly in order to avoid personal and property damage please connects your grounding line properly.

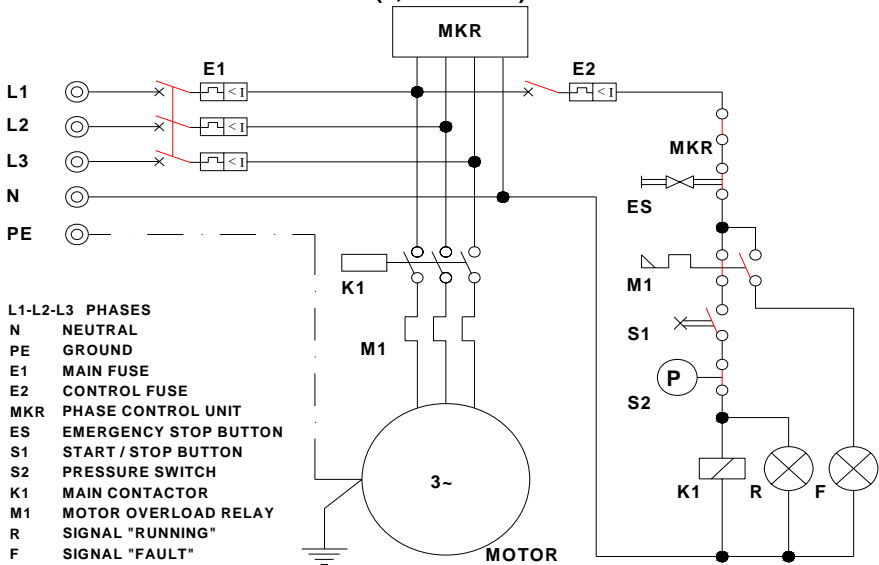
Grounding connection may be made at any of the points marked  (grounding) on the motor. The motor manufacturers keep a place for grounding connection in terminal block box and motor chassis and next to the holes opened for this purpose, there is a grounding mark. If you are going to make the grounding connection over the motor chassis make sure that the surface of grounding cable that will contact the motor chassis is unpainted and clean. While your compressor is being manufactured grounding connection is made between the motor terminal block and pressure switch. This way you may make the grounding connection that suits you.

ELECTRICAL WIRING DIAGRAMS

- SINGLE PHASE COMPRESSORS

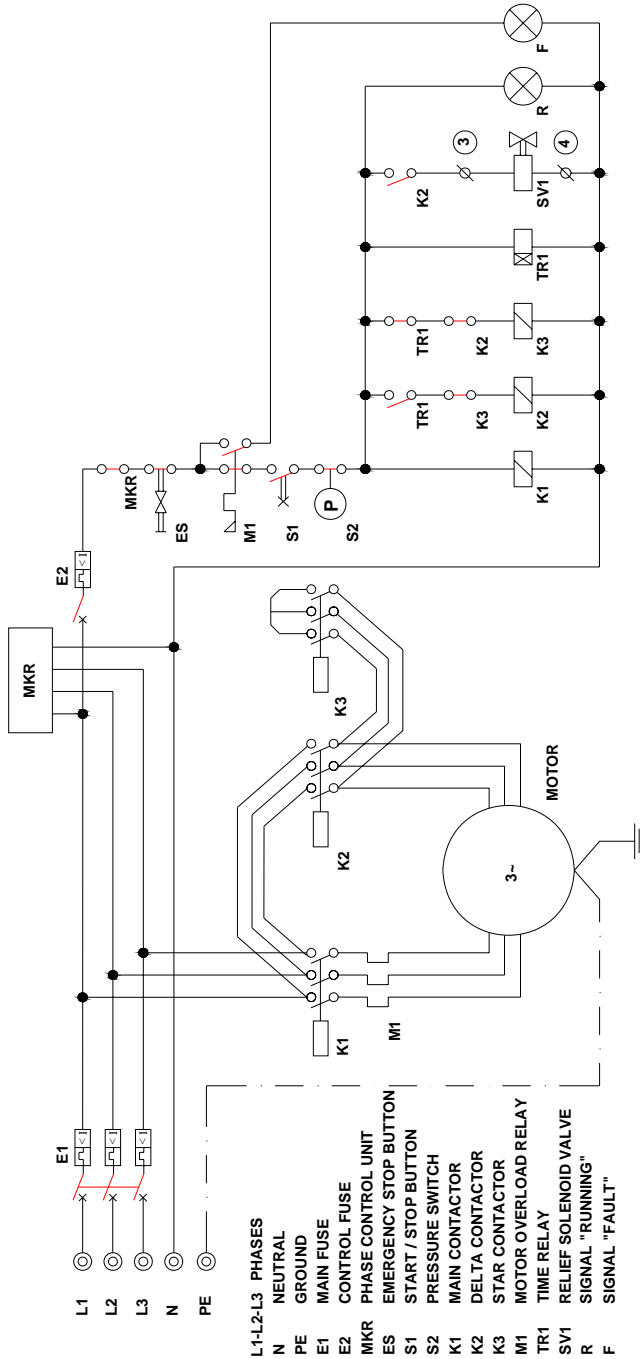


- THREE PHASE COMPRESSORS (1,1 TO 4 kW)



Motor overload relay should be used in three phases compressors which have 4 kW and below motor power.

- THREE PHASE COMPRESSORS (5,5 kW AND UP)



3. CHAPTER

3.1 TECHNICAL DATA

COMPRESSOR TYPE / SERIAL NO			
MAXIMUM WORKING PRESSURE	Bar		
CAPACITY	l/min.		
COMPRESSOR SPEED	rpm		
AIR RECEIVER TYPE / SERIAL NO			
AIR RECEIVER VOLUME	L.		
PRODUCTION DATE			
OPERATING VOLTAGE			
OPERATING FREQUENCY			
AMBIENT TEMPERATURE	BETWEEN 0 C° / +40 C°		
NOISE LEVEL	dB(A)		
DRIVING SYSTEM	DOL	STAR / DELTA	
MAIN MOTOR TYPE / SERIAL NO			
MAIN MOTOR PLATE VALUES	rpm	kW	A
OIL TYPE			
OIL CAPACITY	L.		
INTAKE FILTER TYPE			
BELT TYPE			

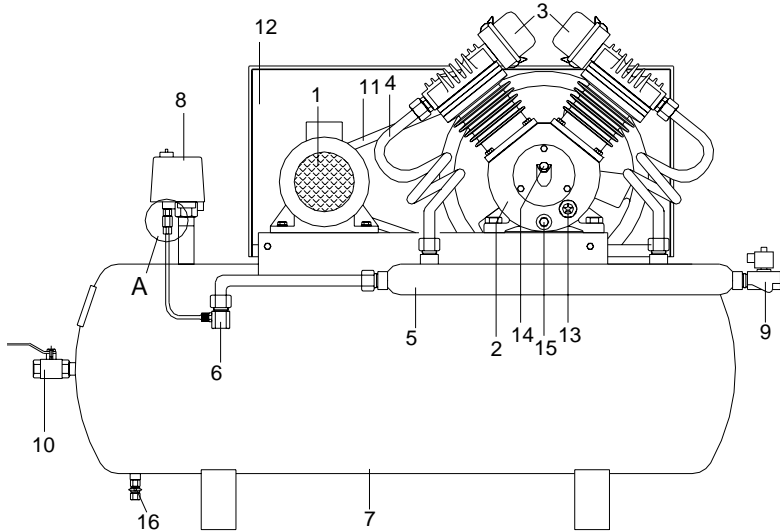
The above mentioned data are definition oriented and our company reserves the right to make any modification without notification. For failure and part order see this handbook. It will be beneficial for you and for our company, if you notify the type and serial number of your compressor in case of order.

3.2 DIMENSIONS

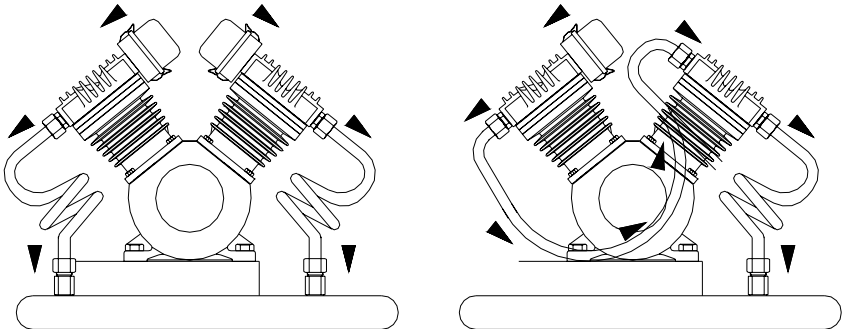
MODEL	W X D X H (mm)	AIR RECEIVER VOLUME (lt)	WEIGH (kg)
HPC-S 1	1150 X 420 X 850	100	85
HPC-S 2 & HPC-T 2/125	1350 X 420 X 850	125	110
HPC-S 3 & HPC-T 2/200	1400 X 500 X 1000	200	150
HPC-S 5 / HPC-T 5	1750 X 500 X 1050	300	225
HPC-S 7 / HPC-T 7	1800 X 650 X 1280	500	360
HPC-T 10	1800 X 650 X 1280	500	400
HPC-S 10	1800 X 650 X 1450	500	400
HPC-S 20 / HPC-T 20	2250 X 1800 X 2300	-	675
HPC-S 25 / HPC-T 25	2250 X 1800 X 2300	-	725
HPC-H 5	900 X 450 X 650	-	145
HPC-H 15	1350 X 1000 X 1000	-	275
HPC-H 20	1500 X 1250 X 1100	-	350
HPC-Booster 10	1200 x 800 x 800	-	270
HPC-Booster 15	1200 x 800 x 800	-	280
HPC-Booster 20	1350 x 800 x 800	-	310
HPC-Booster 25	1300 x 800 x 800	-	345
HPC-Booster 30	1400 x 850 x 800	-	385
HPC-Booster 40	1400 x 850 x 800	-	425
HPC-Booster 50	1850 x 1000 x 1000	-	700
HPC-Booster 60	2100 x 1100 x 1000	-	800
HPC-Booster 75	1950 x 1300 x 1000	-	850

4. CHAPTER

WORKING OF COMPRESSOR

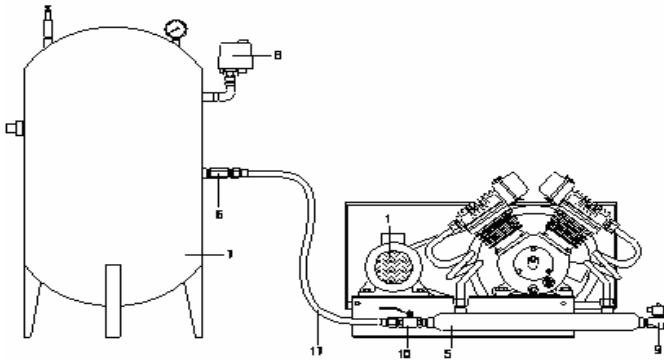


- ✓ The electrical motor (1) of compressor rotates the compressor unit (2).
- ✓ The crank that moves by the rotation of pulley rotates and moves the piston in cylinder up and down.
- ✓ While the piston is moving downward the suction clack opens and filtered clean air enters into the cylinder which has filtered in the intake filter (3).
- ✓ The piston compresses the air by moving upwards and at this moment the pressure clack is opened and the air compressed in piston is pushed into collector (5) and after through the air tank (7). (collector exists in models that has two or more heads)
- ✓ The heated air during compression in cylinder is passed through the cooling pipe (4) and its temperature is reduced.

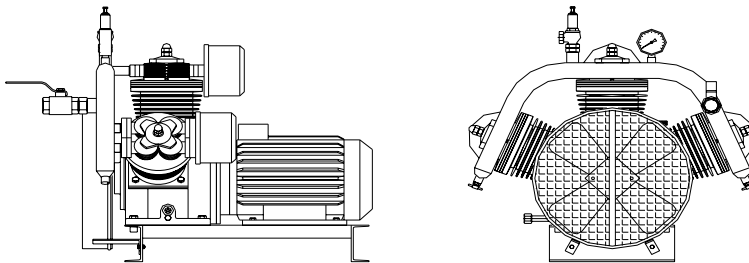


- ✓ **In the double stage compressors**, air are compressed by the first head is sent to the suction of other head instead of the air receiver. The air sucked in the second stage is compressed more and the pressure is increased. The diameter of the second stage cylinder and related equipments are smaller than first stage.
- ✓ There is a check valve (6) that prevents the return of compressed air into compressor. Just before the air tank side.

- ✓ The pressure of the air that starts to be compressed in tank is controlled by pressure switch (8). When the pressure reaches the set value the pressure switch cuts the energy of control circuit of motor.
- ✓ When the pressure switch stops the compressor it enables the next easy start up of motor by releasing the compressed air in cooling pipe or collector with its special structure. In the figure this release line is shown by “A”. Solenoid valve, connected to collector, of larger machines which works due to wye-delta principle discharges the air during the start up in order to ease the start up.
- ✓ The compressor can easily be separated from system by valve (10) located at the outlet of air tank. If you are going to perform maintenance at your air equipment or circuit you may discharge the remaining air in pipes by closing this vane and you may not be obliged to completely discharge all of the air in tank.
- ✓ The force produced by motor for turning of compressor is transmitted by means of belts (11). Our belts are produced from high quality material and the have long service life.
- ✓ While the compressor is running there is a belt guard (12) around rotating equipment that prevents any mechanical injury for personnel.
- ✓ In order to check the oil level of the compressor there is an oil sight glass (13) placed on the carter. The oil is filled into compressor by removing the oil tap (14). The filthy oil is discharged by removing the oil discharge tap (15) on the carter.
- ✓ The water accumulated in the air receiver of the compressor is discharged by drain valve (16).
- ✓ The only difference between compressors on chassis and compressors on the receiver is, the connection hose (17) between compressor group and air receiver.

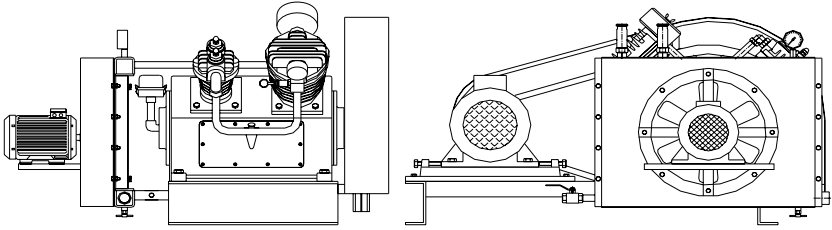


Low Pressure Series:



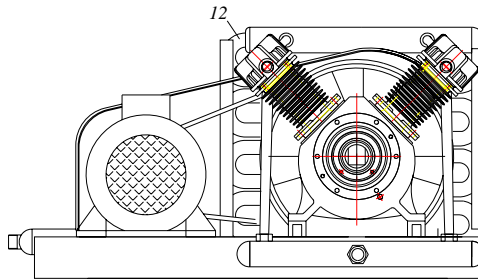
- ✓ Low pressure series are single stage, direct driven and air-cooled compressors which have low working pressure (usually maximum 3 bar) and high free air delivery (F.A.D.) rate.

High Pressure Series:



- ✓ High Pressure series includes double-stage, air-cooled and belt driven air compressors with max. working pressure of 40 bar.

Booster Series:



A Booster Compressor takes air from a normal compressed air main and increases the pressure for certain applications such as seal testing in pneumatic and hydraulic devices, certain actuating cylinders, presses, clamping fixtures and PET bottle production.

Usually the volume of air demanded at higher pressures of around 40 bar is relatively small so the booster is an economical means of supply and more efficient than to lift the pressure in the complete air main to this level.

5. CHAPTER

OPERATION OF COMPRESSOR

5.1 FIRST START UP (COMMISSIONING)

- ✓ Before start up the compressor, check the electrical and air line connections.
- ✓ Do not cover your compressor with cloth, nylon etc. Do not operate if covered with those items.
- ✓ Do not make any pressure adjustments of your compressor. Dangerous results may occur if the indications change written on the plate.
- ✓ Check the tension of belt. The explanation regarding with this is described in maintenance section. The belt tension can be done (tightness can be controlled) by eye check while the compressor is operating. Loosened belt causes excess vibration and compressor rolling.
- ✓ When the energy and air lines of your compressor are completed. If you want to start up the compressor by yourself read this handbook very carefully. Performing an erroneous process may be hazardous for your compressor facility or the personnel working in this region.
- ✓ Check the oil level. On the compressor body there is a sight glass for easily seeing the oil level. Check the oil level when compressor is in stop position. During operation as the oil in crankcase is mobile the control made at this moment is misleading. Fill the oil level if it is missing. The data related with oil is explained in "**compressor oil**" in section 6 (**MAINTENANCE**).
- ✓ Check the internal accessories and connections of the compressor. Make sure that during transportation it has not been damaged.
- ✓ Apply energy to the compressor and check whether the compressor motor is running in correct direction. By closing the valve located at outlet of air tank allow filling of the air tank.
- ✓ Check from the pressure gauge on top of the compressor air tank that the pressure is increasing.
- ✓ Check that the pressure reaches the desired value and compressor stops.
- ✓ By slowly opening the tank outlet valve, leave air to the system and check your compressor while loading at desired pressure value.
- ✓ Stop the compressor after 10-15 working minutes and check the accessory and connections of your compressor visually. This check is important against any oil leak and looseness possibility.
- ✓ All the functions and reliability of your compressor has been tested while manufacturing. The above mentioned information of commissioning is against the probability of your compressor being damaged during transportation. If you can not see a failure status after all controls you can start up the compressor.

5.2 DAILY OPERATION

Normally before running your compressor you may perform some simple checks and afterwards run it.

- ✓ Check that there is no oil leak or damage by simply looking at the internal accessory.
- ✓ Check the oil level.
- ✓ Operate your compressor and watch the operation for a while.

These simple checks may cause you to early detection of failures and save you from loss of time from unnecessary stopping.

5.3 STOPPING THE COMPRESSOR

Press the stop button to switch off the compressor. After the compressor stops check if there is any defect (oil or air leak etc).

6. CHAPTER

MAINTENANCE

6.1 GENERAL



SINCE YOUR COMPRESSOR IS A COMPLICATED MACHINE; MAINTENANCE ACTIVITIES PERFORMED BY UNAUTHORIZED AND NON TRAINED PERSONNEL; WILL ABOLISH ALL GUARANTEE CONDITIONS AND MAY CAUSE UNDESIREED DAMAGE AND INJURIES.



WHILE THE COMPRESSOR IS RUNNING NEVER REMOVE ANY GUARD, COVER OR PART. PRIOR THE MAINTENANCE; SWITCH OFF THE ENERGY OF COMPRESSOR FROM THE MAIN SWITCH. MAKE SURE THAT ALL PRESSURE IN THE COMPRESSOR AIR TANK IS DISCHARGED.

Before the maintenance, read this handbook carefully; performance of maintenance by authorized personnel will lengthen the life of your compressor.

6.2 MAINTENANCE SCHEDULE

MAINTENANCE	daily	weekly	every 150 hours	every 1000 hours	every 2500 hours	every year
draining the air receiver	<input checked="" type="checkbox"/>					
draining the collector	<input checked="" type="checkbox"/>					
oil level check	<input checked="" type="checkbox"/>					
belt tension check		<input checked="" type="checkbox"/>				
intake filter cleaning		<input checked="" type="checkbox"/>				
looseness check of connection bushings			<input checked="" type="checkbox"/>			
looseness check in mechanical connections			<input checked="" type="checkbox"/>			
looseness check of electrical connections			<input checked="" type="checkbox"/>			
oil change			<input checked="" type="checkbox"/>			
cleaning of cooling channels			<input checked="" type="checkbox"/>			
pressure adjustment check			<input checked="" type="checkbox"/>			
check valve function check				<input checked="" type="checkbox"/>		
safety valve check				<input checked="" type="checkbox"/>		
check of suction and pressure clacks					<input checked="" type="checkbox"/>	
general maintenance (overhaul)					<input checked="" type="checkbox"/>	
intake filter change					<input checked="" type="checkbox"/>	
cleaning and hydrostatic test of air receiver						<input checked="" type="checkbox"/>

THE WORKS TO BE PERFORMED AT FIRST MAINTENANCE (AT FIRST 30 WORKING HOURS)

The first maintenance is not a periodical maintenance.

- **Replace the compressor oil.**
- ✓ Clean the cooling channels of compressor body, cylinder, head, motor body and cooler cells (if exist).
- ✓ Check the cleaning of intake filters / replace if necessary.
- ✓ Check the belt tension.
- ✓ Check the leaking / looseness of connection bushings.
- ✓ Check the looseness of electrical circuit connections (motor and contactor cables).
- ✓ Check the looseness of mechanical connections (connection bolts and nuts).

6.3 MAINTENANCE INSTRUCTIONS

✓ **DRAINING AIR RECEIVER AND COLLECTOR.**

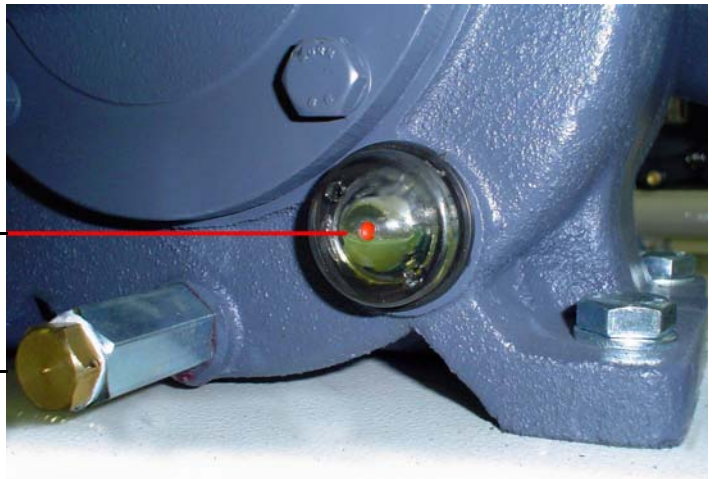
- While the compressor is operating an amount of water is accumulated in the air tank based on environment humidity and operation type.
- Water cause corrosion and defects at the internal accessory of compressor.
- Each day before starting of working hour period. Discharge the water accumulated in tank by slowly opening the drain valve under the tank, while the pressure is 2 or 3 bar in the air tank. And turn the valve off when all the water is discharged.

✓ **CHECKING OF OIL LEVEL OF COMPRESSOR.**

- There is a transparent oil sight glass on the compressor crankcase for easily checking the oil level. Check the oil level while the compressor is in stop position (during operation oil level may change). If the oil is missing refill it.

NORMAL OIL LEVEL

OIL DISCHARGE PLUG



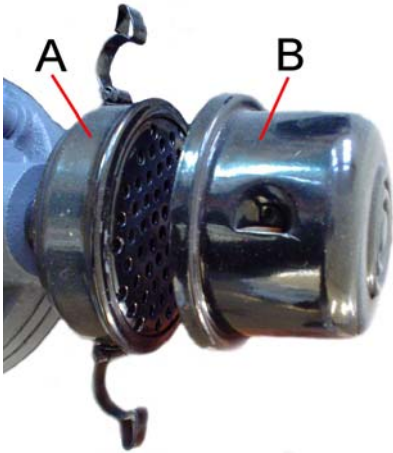
✓ OIL CHANGE

- Stop the compressor, if the compressor is already cold (not operating) first operate it for 5-10 minutes and allow it to warm and afterwards stop it.
- Wait for 1-2 minutes until the oil glides downward.
- Discharge the oil completely by removing the oil charging plug on upper side of carter and oil discharge plug located at the bottom of crankcase. After the oil flow is finished place the oil discharge plug.
- Control the refilled oil by watching from the oil sight glass up to marked level. Make sure that you do not overfill or incomplete.
- Fix the oil charging plug.
- Run the compressor for a few minutes and stop it, after waiting the downfall of oil, check the oil level and if missing refill.

✓ INTAKE FILTER CHANGE

-METAL FILTER

It should be cleaned with industrial cleaner, once a month time, due to the effects of the dustiness degree of environment.



The intake filter works to prevent the dust entry into compressor. If it is not cleaned properly the suction capacity of the compressor is reduced. In case the compressor is operated without the filter, can not be filtered harmful particles and all kinds of dust enter into your compressor and by sticking to operating surfaces increase the wear excessively.

- Take the cover by opening the lugs holding the front cover (B) and clean inside with a clean cloth. Remove filter (A) from its place by rotating.
- By applying pressured air to the filter from opposite allow the dust removal.
- Clean it for a while by placing it into cleaning liquid.
- Allow it to dry by applying compressed air.
- After drying properly assemble it to its place.

-PAPER FILTER



It should be cleaned once a week or more frequently. In order to clean the filter:

- Remove the top cover from its place.
- Remove the filter element from its place, clean the rough dust by applying compressed air from opposite.
- Check if there is any damage on the filter.
- Assemble the clean filter to its place and complete the connections.

Filter replacement should be made in every 2000 hours or 6 months based on environment conditions.

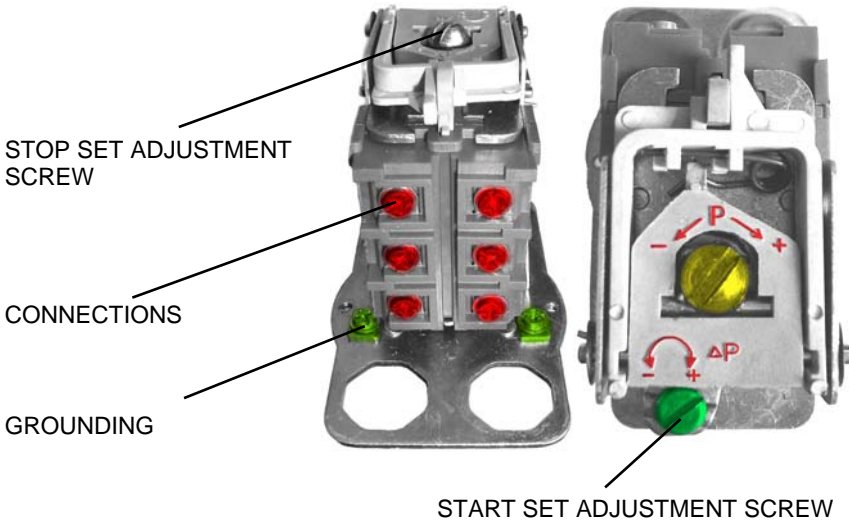
For replacing the intake filter;

- ✓ Stop the compressor. By removing the nut that is squeezing the filter top cover removes the top cover and filter.
- ✓ Clean the internal surface of filter bottom cover with a clean cloth. Do not use the compressed air (dust may go inside the part that has the suction clacks).
- ✓ Check whether or not the filter is bored by cleaning it compressed air from inside to outside; if there is not any defect you may use the filter.
- ✓ If the old filter is very dirty that it can not be cleaned, replace the new filter and close the upper cover: make sure that filter seats properly between the covers.
- ✓ Place the washer and nut of the upper cover.
- ✓ If you are going to keep the filter in your stock preserve it in its case and at a clean place.

✓ **PRESSURE SWITCH AND ADJUSTMENT**



DO NOT CHANGE THE ADJUSTMENT OF PRESSURE SWITCH. WRONG ADJUSTMENT MAY CAUSE SERIOUS ACCIDENTS LIKE BURNING OF YOUR MOTOR OR INJURIES.

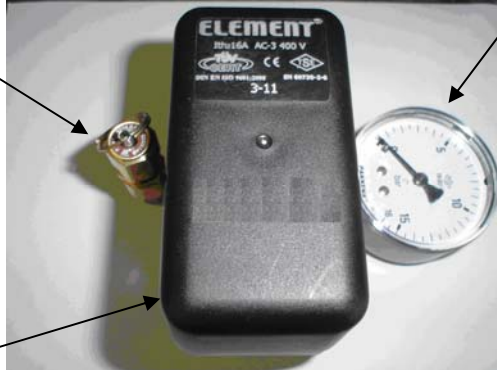


There are contacts for power and control circuit connections on the pressure switch. In addition for grounding connection there are two screws at the bottom sheet metal. There are two bolts for pressure adjustment on the upper side of pressure switch. For easy understanding (+) and (-) marks are placed according to the direction of rotation of screws. With the "Stop set adjustment screw" the pressure that the compressor will stop is adjusted. For increasing rotate the screw in (+) direction and decreasing rotate (-) direction. "Start set adjustment screw" adjusts the activating pressure of the compressor. For increasing the difference between the stopping and activating pressure rotate slowly in direction of (+), for decreasing rotate in direction of (-).

✓ CHECKING OF SAFETY VALVE

SAFETY VALVE

PRESSURE GAUGE



PRESSURE SWITCH

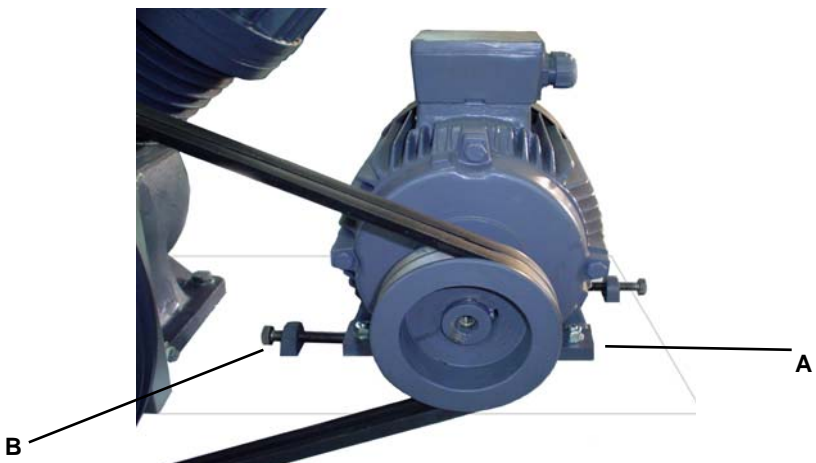


AS THE SAFETY VALVE CARRIES UTMOST IMPORTANCE FOR THE SAFETY OF THE COMPRESSOR DO NOT CHANGE ITS ADJUSTMENT.

The safety valve prevents the probable hazards that may form during uncontrollable increase of pressure. In case the adjustment of pressure switch is changed or spoiled; the safety valve opens and discharges the pressure inside the tank.

As the gasket within the safety valve is pressed against opposing surfaces strongly the surface of pressure makes a place on gasket. At each thousand operating hours or at every three months by pulling the ring on top side of safety valve and prevent sticking of gasket on surface of pressure. During this process observe that the air inside the tank is discharged and it is stopped when you leave the ring. Each year have your service check the adjustment of the safety valve.

BELT REPLACEMENT AND ALIGNMENT



- ✓ Stop the compressor and switch off from main switch.
- ✓ Remove the belt guard.
- ✓ Loosen the “motor body connection nuts” (4 each) shown by “**A**” in figure.
- ✓ Loosen the “adjustment stud” which is inside (between the motor and compressor) shown by “**B**” in figure.
- ✓ The motor will proceed in the direction of the sledges and the belt will be loosened.
- ✓ By rotating the pulley slowly, remove the belts. Make sure that your finger does not get stuck between the belt and pulley.
- ✓ Place the original dimensioned new belts by slowly turning.
- ✓ Make sure that the belt does not get upside down while mounting.
- ✓ There are same amount of channel on belts and pulley. Observe that the belt fully seats on the channels that are reciprocally at same level on both pulleys.
- ✓ Tighten the adjustment stud (at the inner side) that you have previously removed for preventing the loosening of belt by checking the belt tension. Do not over tight the belts.
- ✓ By a smooth ruler check that the motor and screw pulley front faces are in the same direction in the horizontal and vertical positions.
- ✓ If the pulleys are not in same direction bring the motor pulley to the same direction with compressor pulley by using the adjustment screws at two sides of motor.
- ✓ After adjusting the belt tension, by tightening the motor chassis connection bolts fix the motor.
- ✓ Recheck all screw and bolts against the possibility of being looseness.
- ✓ Fix the belt guard.
- ✓ Switch on the compressor and operate it. Check the vibration of belt during operation; if the belt is vibrating, it means that it is loose or the pulleys are not in the same direction. Perform the pulleys alignment again. Do not forget that in case the pulley alignment is not properly performed the belt life will be very short and together with this, it will cause vibration and similar reasons; as a consequence the compressor may be damaged.

✓ **MOTOR MAINTENANCE**

Long term and effective use of the electrical motors you should consider a few important points.

- Assemble the grounding of the compressor properly.
- Do not change the pressure related with the compressor operation, thermal current and time adjustments. When the adjusted value is exceeded, the motor current will increase as the load will increase. This situation may cause burning down of your motor.
- Do not use belts that have completed their service life. The maintenance activities that are no performed on time will force the system mechanically and therefore increase the load of your motor and compressor and shorten its life.
- Keep the cooling fan, ventilation channels and the screen of the fan protective cover clean.
- Your elevation from sea level and medium temperature directly affects the cooling coefficient of the motor. In standard, your motor operates without problem at 1000 meters altitude and at 40° C ambient temperature. You may have to review the loading ratio at higher altitudes and warmer places.

ALTITUDE (meter)	1000	1500	2000	2500	3000	3500	4000
%	100	98	95	91	87	83	78

TEMPERATURE (°C)	30	35	40	45	50	55	60
%	105	102	100	97	93	87	82

✓ **COMPRESSOR OIL**

- In our compressors Shell Rimula C type of oil is being used.
- As the chemical structures and contributions of different types of oils are different; mixing them with each other or using them in the compressor may cause a severe damage with a high cost. In case of using different type oil (Hydraulic oil etc.), these two different types will get mixed and become paste consistency and this immediately impairs all the equipments of your compressor. If you keep operating this way, there may be stationary mechanical damages in your crank, piston rod, piston etc type of important components of your compressor. For this reason do not keep other lubricating oils beside your compressor. Because of this, your maintenance operator may accidentally use it.
- Especially the skin contact of used oil should be avoided and in case of contact they should be washed with water and soap.

• **Typical physical characteristics**

Shell Rimula C oils	40
ISO viscosity degree	40
Kinematic viscosity @ 40 °C cSt. 100 °C cSt (IP 71)	139 14,4
Viscosity index (IP 226)	102
Density @ 15 °C kg/l (IP 365)	0.895
Flash point °C (Cleveland open cup) (IP 36)	250
Pour point °C (IP 15)	-9

7. CHAPTER

THROUBLESHOOTING

7.1 INTRODUCTION

The information in this section is based on the experience gained by the service activities and tests conducted at factory.

The indications and reasons of failures are ordered according to the results obtained from the warnings of our company and the experience of the service personnel.

According to the structure of the compressor, as the systems and failures are interrelated; prior making any repair or part replacement the reason of failure should be determined.

For the problems to be encountered, it is beneficial to make an eye inspection.

Good tracing of failure, prevents the undesired damages that may occur during repair.

Firstly;

- ✓ Check the electrical connections for the possibility of looseness.
- ✓ Check the parts that may be influenced from short circuit and heat.
- ✓ Check the damage and looseness that may form at air and oil circuit hoses, pipes and connections.

If you have tried all the ways described in this handbook for eliminating the failure and the problem still continues; please contact our company or service department.



FROM THE POINT OF YOUR SPEED AND RELIABILITY HAVING ALL KINDS OF CORRECTIVE ACTION, MAINTENANCE AND REPAIR WORKS TO BE DONE AT OUR SERVICE COMPANIES IS THE BEST WAY FOR YOUR COMPRESSOR AND YOUR FACILITY.

ALL KINDS OF WORKS CARRIED OUT WITHOUT SUFFICIENT KNOWLEDGE MAY CAUSE WRONG RESULTS, UNNECESSARY INTERRUPTIONS OF YOUR FACILITY OR MORE COSTLY DAMAGES.

7.2 THROUBLESHOOTING

1- COMPRESSOR DOES NOT OPERATE:

1- NO POWER.

CHECK THE VOLTAGE FROM INPUT TERMINAL BLOCK

2- CONTROL OR INPUT FUSE IS BLOWN

CHECK THE FUSES

3- LINE VOLTAGE IS LOW.

CHECK THE LINE VOLTAGE.

2- COMPRESSOR IS HARDLY WORKING:

1- THE CROSS SECTION OF POWER CABLE IS INSUFFICIENT.

THIS PROBLEM CAN BE ENCOUNTERED ON CONNECTIONS MADE THINNER CABLE DUE TO VOLTAGE LOSS. WHEN YOUR COMPRESSOR IS IN STOP POSITION, MEASURE THE INPUT VOLTAGE AND WHILE MEASURING OPERATE THE COMPRESSOR. IF THE VOLTAGE IS DECREASE % 5 (380> 360) AND BELOW THE CABLE CROSS SECTION IS INSUFFICIENT. MAKE THE CONNECTION WITH A SUITABLE CROSS SECTION.

2- LINE VOLTAGE IS LOW.

CHECK THE LINE VOLTAGE

3- AMBIENT TEMPERATURE IS LOW.

IF THE ENVIRONMENT TEMPERATURE IS LOWER THAN 0 °C, THE OIL MAY THICKEN AND THIS MAY ENFORCE THE OPERATION OF YOUR COMPRESSOR.

4- THERE IS A MECHANICAL PROBLEM AT MOTOR OR COMPRESSOR UNIT.

AFTER SWITCH OFF THE COMPRESSOR, CHECK WHETHER THE BELTS ARE FREELY ROTATING. IF THE ROTATION IS MORE DIFFICULT THEN NORMAL, THERE MAY BE MECHANICAL DAMAGED (DAMAGE OF OCCURANTE ETC) AT MOTOR OR AT COMPRESSOR UNIT, INFORM THE SERVICE.

5- COLLECTOR IS NOT DISCHARGED.

WHEN THE COMPRESSOR REACHES THE SET PRESSURE, PRESSURE SWITCH STOPS THE COMPRESSOR. AT THE SAME TIME PRESSURE SWITCH OR SOLENOID VALVE RELIEF THE PRESSURE IN COLLECTOR. IF YOU DON'T HEAR THE SOUND, SOLENOID VALVE OR RELIEF SYSTEM OF PRESSURE SWITCH IS DEFFECTIVE. CHECK / REPLACE IF NECESSARY.

3- COMPRESSOR DOES NOT PRODUCE AIR:

1- THE INTAKE FILTER IS CLOGGED.

CHECK THE INTAKE FILTER AND REPLACE IF NECESSARY.

2- CLACKS ARE DEFFECTIVE.

IF THERE IS A DEFECT IN SUCTION AND PRESSURE CLACK (FRACTURE, CRACK ETC) NO AIR IS COMPRESSED AT COMPRESSOR CYLINDER OR THE COMPRESSED AIR RETURNS BACK. CHECK THE CLACK AND REPLACE IF NECESSARY.

3- AIR PIPE CONNECTIONS LEAKS AIR.

CHECK THE CONNECTION OF HOSE OR PIPE; BE SURE THAT THERE IS NOT ANY LOOSE CONNECTION. REPLACE IF IT IS DAMAGED.

4- THE COMPRESSOR CAN NOT REACH THE ADJUSTED PRESSURE:

1- THE CONSUMPTION OF YOUR SYSTEM IS HIGHER THEN COMPRESSOR CAPACITY.

IN ORDER TO OBSERVE THAT THE COMPRESSOR CAN REACH THE MAXIMUM PRESSURE; SLOWLY CLOSE THE OUTLET VALVE. OBSERVE THAT THE PRESSURE IS INCREASING AND THE COMPRESSOR STOP AT SET POINT. IF THE PRESSURE DOES NOT INCREASE, THERE MUST BE ANOTHER FAILURE. INFORM THE SERVICE.

2- THERE IS LEAK AT YOUR AIR LINE CONNECTIONS.

CHECK THE SEAMS OF YOUR AIR CIRCUIT.

3- THE INTAKE FILTER IS EXCESSIVELY DIRTY.

CHECK THE INTAKE FILTER. CLEAN / REPLACE, IF NECESSARY.

4- THE CLACKS ARE DEFFECTIVE.

SEE ITEM 3.2.

5- PISTON, PISTON RING OR CYLINDER IS WORN OUT.

THE COMPRESSOR CAN NOT PRODUCE AIR AT NORMAL CAPACITY AS A RESULT OF AIR LEAKS CAUSED BY MEASUREMENT VARIATIONS DUE TO FRICTION IN MEDIUM WHERE THE PRESSURE IS COMPRESSED. INFORM THE SERVICE.

5- THE COMPRESSOR EXCEEDS THE ADJUSTED PRESSURE:

1- THE ADJUSTMENT OF PRESSURE SWITCH IS CHANGED. PRESSURE SWITCH IS DEFFECTIVE.

CHECK THE PRESSURE ADJUSTMENT BY DECREASING. IF THE PRESSURE SWITCH DOES NOT FUNCTION EVEN AT THE LOWEST VALUE IT IS DEFFECTIVE. REPLACE IT.

6- THE COMPRESSOR EXCESSIVELY LOOSES OIL:

1- RECOMMENDED OIL IS NOT BEING USED.

PLEASE USE RECOMMENDED OIL SINCE DIFFERENT TYPE OILS CAN BE REASON OF DAMAGES OR HIGH COST MAINTENANCES IN THE FUTURE.

2- PISTON, PISTON RING OR CYLINDER IS WORN.

SEE ITEM 4-5. AFTER THIS POINT THE WORN OUT PISTON RINGS TRANSMIT THE OIL TO COMPRESSION SIDE ABNORMAL AMOUNT.

3- THE COMPRESSOR IS BEING SUBJECTED TO EXCESSIVE HEAT.

IN PLACES WHERE THE ENVIRONMENT TEMPERATURE IS MORE THAN + 40 °C AND THE COMPRESSOR IS EXPOSED TO DIRECT SUN LIGHT AS THE EXPANSION WILL INCREASE AND THE OIL WILL BE THINNED MORE THEN NORMAL THE OIL LOSSES MAY INCREASE.

4- THERE IS OIL LEAKAGE IN COMPRESSOR BODY.

IN PLACE WHERE THERE IS OIL LEAKAGE OIL IS OBSERVED ON GROUND. BY CHECKING THE CONNECTION AT OIL CIRCUIT TIGHTEN THEM. IF THE OIL LEAKAGE DOES NOT STOP INFORM THE SERVICE.

7- COMPRESSOR OPERATES HOTTER THAN NORMAL:

1- OIL LEVEL IS LOW.

CHECK THE OIL LEVEL AND IF IT IS MISSING REFILL IT.

2- THE OIL HAS EXPIRED.

THE LIFE OF OIL CAN EASILY BE UNDERSTOOD FROM ITS COLOR (ITS COLOR DARKENS). IF YOU ARE OBLIGED TO CHANGE THE OIL MORE FREQUENT THEN NORMAL REVIEW THE OPERATING CONDITIONS OF THE COMPRESSOR.

3- AMBIENT TEMPERATURE IS HIGH.

4- VENTILATION IS INSUFFICIENT.

DON'T PLACE THE COMPRESSOR INTO SMALL ROOMS WITHOUT VENTILATION AND UNDER STAIRS. DO NOT LEAVE ANYTHING BEFORE THE PULLEY OF COMPRESSOR THAT MAY OBSTRUCT THE AIR FLOW. CHECK AND TAKE THE NECESSARY PRECAUTIONS.

5- COMPRESSOR COOLING CHANNEL, FAN BLADES OR COOLER CELLS ARE DIRTY.

CHECK & CLEAN.

6- INTAKE FILTER IS DIRTY / CLOGGED.

CHECK & CLEAN & REPLACE.

7- THE BELTS ARE LOOSE.

CHECK THE TENSION OF THE BELTS, BY LOOKING AT THE MOVEMENT OF THE BELT WHILE THE COMPRESSOR IS OPERATING YOU MAY UNDERSTAND THAT THE BELT IS LOOSE. BY ADJUSTING PROPERLY THE TENSE BELTS DO NOT BEAT. BY OBSERVING THE ITEMS IN BELT REPLACEMENT AND ADJUSTMENT TENSION THE BELTS OR INFORM THE SERVICE. (IN ADDITION THE BELT MAYBE OILY) IN THIS TYPE OF A SITUATION WHILE THE PRESSURE IS INCREASED THE BELTS LEAK AND START TO BURN. IN THESE CASES YOU MAY HEAR FRICTION SOUND AND OBSERVE FUME. BY POURING BABY POWDER AMONG THE CHANNELS OF THE PULLEY CLEAN THE OIL. IF WEARING IS EXCESSIVE REPLACE THE BELTS.

8- SAFETY VALVE OPENS:

1- OPERATING PRESSURE ADJUSTMENT HAS BEEN CHANGED.

CHECK THE PRESSURE ADJUSTMENT.

2- SAFETY VALVE OR ITS ADJUSTMENT IS DEFECTIVE.

IF THE SAFETY VALVE OPENS PRIOR THE VALUE IT IS ADJUSTED REPLACE IT.

9- THE COMPRESSOR OPERATES NOISY THAN NORMAL:

1- THE MECHANICAL CONNECTIONS ARE LOOSE.

CHECK THAT ALL MECHANICAL CONNECTIONS ARE TIGHTENED PROPERLY (THE TIGHTNESS OF MOTOR, COMPRESSOR UNIT, PULLEY AND FAN CONNECTIONS HAS BIG IMPORTANCE FROM THE POINT OF SAFETY).

2- THE PULLEY ALIGNMENT IS DEFECTIVE.

BY STOPPING THE COMPRESSOR CHECK THAT THE PULLEYS ARE AT THE SAME LEVEL WITH A JIG. IF THE ALIGNMENT IS BAD REALIGN IT OR INFORM THE SERVICE.

3- THERE IS A PROBLEM AT MOTOR BEARINGS.

LISTEN TO THE SOUND OF MOTOR. IF YOU HEAR A BAD NOISE FROM BEARINGS INFORM THE SERVICE.

4- THERE IS A PROBLEM AT THE COMPRESSOR UNIT.

IT MAKES AN EASILY DISTINGUISHABLE NOISE DURING OPERATION. AS WORKING OF COMPRESSOR IN THIS SITUATION THE REPAIR COST WILL BE HIGHER. INFORM THE SERVICE.

10- THE OIL LOOSES ITS PROPERTY RAPIDLY:

1- THE SUGGESTED OIL IS NOT BEING USED.

2- THE AMBIENT HUMIDITY IS HIGH.

3- THERE IS FINE DUST, GAS ETC IN ENVIRONMENT THAT SPOILS THE PROPERTY OF OIL.

WHILE DETERMINING OF COMPRESSOR ROOM IN SANDBLASTING, CASTING, CHEMICAL AND DYING / CHEMICAL FINISH FACILITIES THIS POINT HAS TO BE ESPECIALLY TAKEN CARE OF.

4- AMBIENT TEMPERATURE IS HIGH.

AT THE COMPRESSORS THAT ARE OPERATING IN BOILER ROOM, GENERATOR ROOM OR AT PLACES WITH INSUFFICIENT VENTILATION THE OPERATING TEMPERATURE AFFECTS NEGATIVELY THE OIL LIFE.

11- THE CONTACTOR CONTACTS WEAR VERY RAPIDLY (THEY STICK VERY FREQUENTLY):

1- THE LINE VOLTAGE IS LOW.

SEE ITEM 2-2.

2- THE COMPRESSOR OPERATES WITH FREQUENT START-STOP MODE.

THERE MAY BE WATER ACCUMULATION IN AIR TANK. DISCHARGE THE WATER. THE LOWER PRESSURE ADJUSTMENT OF PRESSURE SWITCH MAY BE CHANGED. READJUST IT. PERFORMING OF VERY FREQUENT START/STOP AFFECTS MECHANICAL LIFE ADVERSELY AND IN THE MEANWHILE DUE TO THE HIGH CURRENT AT START THE OPERATION COST INCREASES. FOR DETAILED INFORMATION CONSULT THE SERVICE.

3- ORIGINAL CONTACT SET IS NOT BEING USED.

THE ELECTRICAL STRENGTH OF NON ORIGINAL CONTACTS IS VERY LOW. FOR PREPARATION ORIGINAL SPARE PARTS CONTACT SERVICE.

12- THE BELT WEARS VERY RAPIDLY:

1- THE PULLEY ALIGNMENT IS DEFECTIVE.

CHECK THE PULLEY ALIGNMENT AND CORRECT IT. INFORM THE SERVICE.

2- THE TENSION OF BELT IS MORE THEN NORMAL OR LOW.

3- OPERATION IS CONTINUOUSLY MADE IN HIGH TEMPERATURE AND CORROSIVE ENVIRONMENT.

TAKE THE NECESSARY PRECAUTIONS AND CONTACT THE SERVICE.