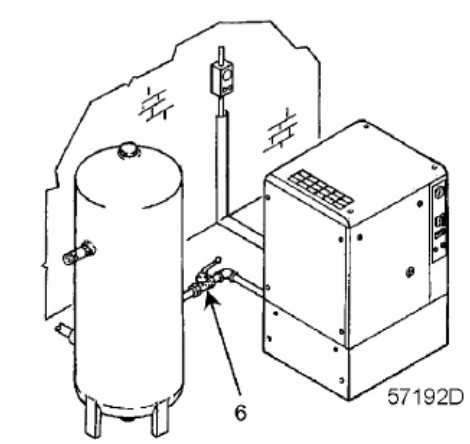
Installation Guidelines & Procedure for Industrial air range Compressors GX 2-11 & GA11+90

1. GX 2-5 Pack/FF (Tank /FM):

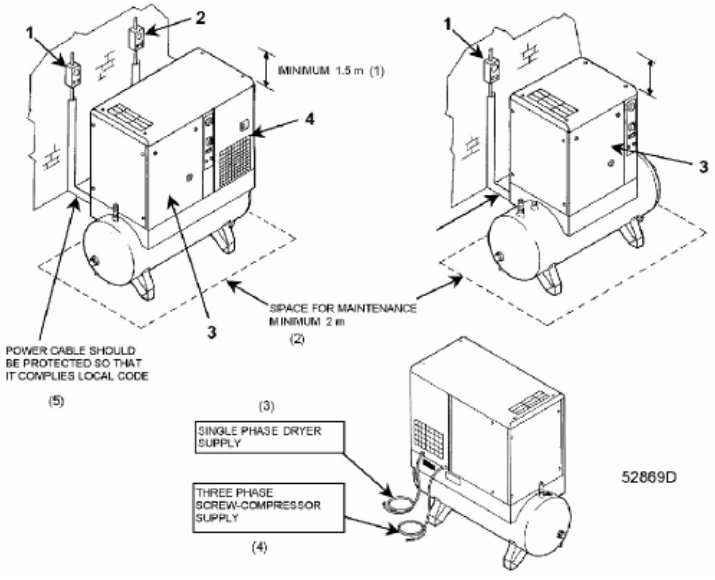
Proposal



Installation proposal, Floor-mounted GX2 up to GX5

Ref.	Description/recommendation
(6)	Outlet valve

Proposal



Installation proposal, GX2 up to GX5

Ref.	Description/recommendation
1	Isolating switch, compressor
2	Isolating switch, dryer
3	Front panel, compressor
4	Dryer
(1)	Minimum 1.5 m
(2)	Space for maintenance, minimum 2 m
(3)	Single-phase dryer supply
(4)	Three-phase screw compressor supply
(5)	The power cable should be protected so that it complies with local codes

Steps:-

1. Layout: - Installed the compressor on a solid, level floor suitable for taking the weight.

Recommended minimum distance between top of the unit & the ceiling is 1.5 m .Distance between wall & back of the compressor must be 0.2 m. (Refer above fig)

2. Delivery pipe size: - Recommended Del pipe size can be calculated by following formula considering the pressure drop as 0.1bar (1.5 psi)

DP = (L * 450 * QC^1.85)/ (D^5*P)

Where DP-recommended pressure drop

L- Length of Del pipe in m

D –Dia of delivery pipe in mm

P --absolute pressure at the compressor outlet

QC –Free air delivery of compressor in L/S

Minimum pipe size should be more /equal to outlet valve connection. In this case it is ½ inches.

3. Ventilation: - The inlet grids & ventilation fan should be installed in such way that any recirculation of cooling air should be avoided.

4. Electric cable size:-

		GX2	GX3	GX4	GX5
Frequency (Hz)	**Voltage (V)**	**Cable size**	**Cable size**	**Cable size**	**Cable size**
IEC		(mm^2)	(mm^2)	(mm^2)	(mm^2)
50	230	2.5	2.5	4	4
50	400	1	1	1.5	1.5

5. Electrical Connections:-

Step	Action
1	Ensure that the supply voltage matches the voltage on the data plate.
2	Fit an isolating switch near the compressor. For Full-Feature compressors: fit an isolating switch near the dryer.
3	Fit fuses in the incoming wiring. Check the condition of all incoming wiring and make connections. See Electrical diagrams.

6. Settings for overload relay & fuse:-

GX 2-3

Frequency (Hz)	Voltage (V)	Overload relay Q21 (A) of GX2	Main fuses, compressor supply (A) of GX2	Overload relay Q21 (A) of GX3	Main fuses, compressor supply (A) of GX3	Main fuses, dryer supply (A)
IEC	DOL		gL/gG		gL/gG	gL/gG
50	230	13.9	16	17.4	16	10
50	400	8	10	10	10	10

GX 4-5

Frequency (Hz)	Voltage (V)	Overload relay Q21 (A) of GX4	Main fuses, compressor supply (A) of GX4	Overload relay Q21 (A) of GX5	Main fuses, compressor supply (A) of GX5	Main fuses, dryer supply (A)
IEC	DOL		gL/gG		gL/gG	gL/gG
50	230	19.1	20	23.5	25	10
50	400	11	16	13.5	16	10

Service Interventions:-

Running hours	Operation
50	Drain the condensate from the receiver.
"	Check the oil level.
"	For Floor-mounted versions: clean the prefilter on the rear side of the compressor.
500	Clean the air filter.
"	For Full-Feature versions: check that condensate from the dryer is drained automatically.
"	For Full-Feature versions: clean the condenser of the dryer.
"	Check the belt tension.
"	For compressors with PDX filter: check the service indicator, replace the filter if necessary.
2000	Replace the air filter.
"	If Atlas Copco Roto-Inject Fluid is used, change the oil.
Running hours	**Operation**
"	Replace the oil filter.
"	For compressors with PDX filter: replace the filter.
4000	Clean the finned surface of the oil cooler.
"	Replace the oil separator.
"	Have the safety valve tested.

Note**: -** For dusty environment & ambient temp above 35 degree, Pl consult Atlas Copco for optimized oil & air filter change interval.

Service Kits:-

1.2901 1416 00 - Air oil filter kit
2.2901 0865 01 - Air oil filter & oil separator kit
3.2901 0245 01 - Rot inject oil 5 l

Insurance spares:-

1.0367 0100 56 – belts GX2
2.0367 0100 55 – belts GX3
3.0367 0100 57 – belts GX4
4.0367 0100 58 – belts GX5
5.2202 7421 00 - temp sensor
6.2901 1095 00 - Thermostat & MPV kit
7.2200 6006 82 - Pressure switch
8.2202 2754 01 - ECD
9.2202 7622 01 -Fan motor dryer
10.2202 7623 01 - Fan dryer
11.2202 7569 02 -Dryer filter
12.1619 5268 00- pressure gauge
13.2200 5997 70- solenoid valve
14.2200 9005 28 - fan GX2
15.2200 9005 31- fan GX3-4
16.2200 9005 29 -fan GX5

List of Activities

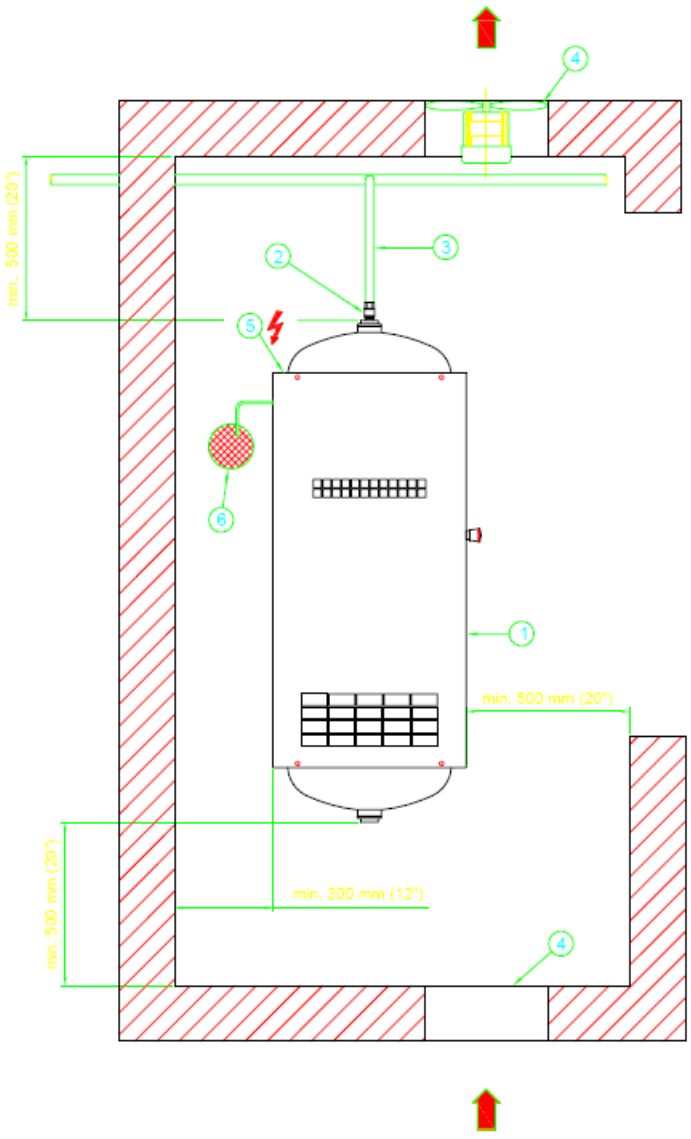
Equipment: GX2-5				
Visit Type	Visit I	Visit A	Visit B	Visit D
Visit Interval		2000	4000	20000
Inspection	x	x	x	x
Clean compressor	x	x	x	x
Check for air- water- & oil leakage	x	x	x	X
Check electrical components	x	x	x	X
Check safeties	x	x	x	X
Check for air- water- & oil leakage	x	x	x	X
Check Coupling/Belts	x	x	x	X
Clean filter housing	x	x	x	X
Check condition of cooling fan assy (AC)	x	x	x	X
Check oil level	x	x	x	X
Check/clean condensate drain(s)	x	x	x	X
Change air filter element(s) (More frequently for duty environment)		x	x	X
Change compressor oil filter		x	x	X
Change oil separator element		x	x	X
Change compressor oil (ZR/ZT: 2y) (Rot inject Fluid)		x		X
Change belt(s)			x	X
Check for refridgerant leaks(FF only)			x	X
Check Dewpoint & Indicator Lamps(FFonly)			x	X
Replace element(s) (use exchange elt.)				X

The activities are recommended activities only. Some activities may change depending on local conditions and utilisation.

Note:-If Roto Xtend duty fluid is used then oil change is at 6000 hrs for ambient more than 35 degree.

	Parts included at each visit					
	RHRS		RHRS		RHRS	
	2000	Visit A	4000	Visit B	20000	Visit D
1	2901086501	Filter Kit	2901086501	Filter Kit	2901086501	Filter Kit
2			0367010058	Belt GX5	0367010058	Belt GX5
3			0367010057	Belt GX4	1616710390	Ois D-11
4			0367010056	Belt GX3	0367010057	Belt GX4
5			0367010055	Belt GX2	0367010056	Belt GX3
					0367010055	Belt GX2

2. GX 7-11 Pack/FF (Tank /FM):-



Steps:-

1. Layout: - Install the compressor on a solid level floor suitable for taking its weight. The recommended minimum distance between the top of unit & the ceiling is 900mm (35in).
The air receiver must not be bolted to the floor.

The minimum distance between the wall & the back of the compressor is 500 mm (20in).

2. Delivery pipe size: - Recommended Del pipe size can be calculated by following formula considering the pressure drop as 0.1bar (1.5 psi)

DP = (L * 450 * QC^1.85)/ (D^5*P)
Where DP-recommended pressure drop
L- Length of Del pipe in m
D -Dia of delivery pipe in mm
P -absolute pressure at the compressor outlet
QC -Free air delivery of compressor in L/S

Minimum pipe size should be more /equal to outlet valve connection. In this case it is ½ inches.

3. Ventilation: - The inlet grids & ventilation fan should be installed in such way that any recirculation of cooling air should be avoided.
The air velocity to the grid must be limited to 5 m/s.
The required ventilation capacity to limit temperature of the compressor room can be calculated from the following formula:

Qv = 0.92N/DT
Qv - required ventilation capacity in m^3/s
N - Nominal motor power of compressor in kW
DT - Temp rise in compressor room

4. Electric cable size:-

		GX7	GX11
Frequency (Hz)	**Voltage (V)**	**Cable size**	**Cable size**
IEC		(mm^2)	(mm^2)
50	400	4	6

5. Electrical Connections:-

Step	Action
1	Ensure that the supply voltage matches the voltage on the data plate.
2	Fit an isolating switch near the compressor. For Full-Feature compressors: fit an isolating switch near the dryer.
3	Fit fuses in the incoming wiring. Check the condition of all incoming wiring and make connections. See Electrical diagrams.

6. Settings for overload relay & fuse:-

GX 7 and GX 11

Frequency (Hz)	Voltage (V)	GX7		GX11	
IEC	Star-delta	Overload relay FM1 (A)	Disc. switch + motor circuit breaker (curve D) + residual current device	Overload relay FM1 (A)	Disc. switch + motor circuit breaker (curve D) + residual current device
50	400	12,1	25	17.2	32

Service Interventions:-

Preventive maintenance schedule for GX7 and GX11

Period	Running hours	Operation
Daily	--	Check the oil level before starting; drain the condensate after stopping.
3-Monthly	--	Check for possible leaks.
"	1000	Inspect the oil cooler, clean if necessary.
"	1000	Inspect the air cooler, clean if necessary.
"	1000	Inspect the air filter.
"	--	Inspect the condensate trap, clean the float valve if necessary.
"	--	For compressors with PDX filter: check the service indicator, replace the filter if necessary.
--	1000	Check the tension and the condition of the belts. Adjust, if necessary.
Yearly	--	Have the safety valve tested.
"	--	Have the operation of sensors, electrical interlockings and components checked.

Period	Running hours	Operation
"	--	Have the temperature shut-down switch tested.
"		Replace the air filter.
"	4000	Replace the oil filter.
"	4000	Replace the oil separator.
"	4000	For compressors with PDX filter, replace the filter.
"	4000	If Atlas Copco Roto-Inject Fluid is used, change the oil.

Note**: -** For dusty environment & ambient temp above 35 degree, Pl consult Atlas Copco for optimized oil & air filter change interval.

Service Kits:-

1.2901 0919 00 - Air oil filter & oil separator kit
2.1613 9001 00 - Air filter
3.2901 0245 01 - Rot inject oil 5 l

Insurance spares: - For GX 7-11 with old design (Horizontal oil tank)

1.2901 0068 00 - Thermostat kit 40 degree
2.2901 0414 00- Thermostat kit 60 degree
3.2901 0561 00 - Shaft seal kit
4.2901 1399 01- minimum pressure valve kit (7.5, 10 bar)
5.2901 1411 00- minimum pressure valve kit (13 bar)
6.2901 0298 50- Unloader valve kit
7.2901 0712 00- Drain valve kit
8.2901 0748 00- WSD kit
9.1613 9032 06 - V belt set GX 7-7.5 bar
10.1613 9032 01- V belt set GX 7, 11-13 bar
11.1613 9032 22- V belt set GX 7, 11-10 bar
12.1613 9032 23- V belt set GX 11-7.5 bar
13.1089 0637 09 - Temp switch
14.1089 0654 02- Pressure switch
15.1619 5268 00 - Pressure gauge
16.1089 0621 14- Solenoid valve

List of Activities
Equipment: GX7 -11

Visit Type	Visit F	Visit I	Visit A	Visit B	Visit C	Visit D
Visit Interval	2000		4000	8000	16000	24000
Inspection		x	x	x	x	x
Clean compressor		x	x	x	x	x
Check for air- water- & oil leakage		x	x	x	x	x
Check electrical components		x	x	x	x	x
Check safeties		x	x	x	x	x
Check Coupling/Belts		x	x	x	x	x
Clean filter housing		x	x	x	x	x
Check condition of cooling fan assy (AC)		x	x	x	x	x
Check oil level		x	x	x	x	x
Check/clean condensate drain(s)		x	x	x	x	x
Change air filter element(s) (More frequently for duty environment)	x		x	x	x	x
Change compressor oil filter	x		x	x	x	x
Change oil separator element			x	x	x	x
Change compressor oil (ZR/ZT: 2y) (Roto inject oil)	x			x	x	x
Change belt(s)				x	x	x
Check for refridgerant leaks(FF only)				x	x	x
Check Dewpoint & Indicator Lamps(FFonly)				x	x	x
Overhaul water drain				x	x	x
Overhaul unloader valve				x	x	x
Replace element(s) (use exchange elt.)						x

The activities are recommended activities only. Some activities may change depending on local conditions and tilisation.

Note:-If Roto Xtend duty fluid is used then oil change interval is 6000 hrs for ambient more than 35 degree.

Parts included at each visit GX7-11

	RHRS		RHRS		RHRS		RHRS	
	4000	Visit A	8000	Visit B	16000	Visit C	24000	Visit D
1	2901091900	Filter/Separator	2901091900	Filter/Separator	2901091900	Filter/Separator	2901091900	Filter/Separator
2			2903102408	V-Belt Set	2903102408	V-Belt Set	2903102408	V-Belt Set
3			2901029850	Unloader Ga5	2901029850	Unloader Ga5	2901029850	Unloader Ga5
4	2901071200	Service Kit	2901071200	Service Kit	2901071200	Service Kit	2901071200	Service Kit
5							2989016400	Service Stage

Service Kits: - For GX 7-11 with New design (vertical tank)

1.2901 1418 00 - Air oil filter & oil separator kit
2.1613 9001 00 - Air filter
3.2901 0245 01 - Rot inject oil 5 l

Insurance spares: - For GX 7-11 with New design (Vertical oil tank)
1.2901 1095 00 - Thermostat & MPV kit
2.2901 1872 00 - Tropical thermostat & MPV kit
3.9096 9486 01- belt set GX7-13 bar
4.9096 9486 02- belt set GX 7-7.5 bar
5.9096 9486 03- belt set GX 7-10bar, GX 11-13 bar
6.9096 9486 04- belt set GX11-7.5 bar
7.9096 9486 05- belt set GX 11-10 bar
8.2202 7403 05- Fan GX7
9.2202 7403 02- Fan GX11
10.9095 1835 00 - Pressure switch
11.2202 8548 00 - gasket
12.1089 0621 14- Solenoid valve
13.1089 0637 16- Temp switch
14.2202 8420 00-electronikon01

List of Activities
Equipment: GX7 -11 (Redesign)

Visit Type	Visit F	Visit I	Visit A	Visit B	Visit C	Visit D
Visit Interval	2000		4000	8000	16000	24000
Inspection		x	x	x	x	x
Clean compressor		x	x	x	x	x
Check for air- water- & oil leakage		x	x	x	x	x
Check electrical components		x	x	x	x	x
Check safeties		x	x	x	x	x
Check Coupling/Belts		x	x	x	x	x
Clean filter housing		x	x	x	x	x
Check condition of cooling fan assy (AC)		x	x	x	x	x
Check oil level		x	x	x	x	x
Check/clean condensate drain(s)		x	x	x	x	x
Change air filter element(s) (More frequently for duty environment)	x		x	x	x	x
Change compressor oil filter	x		x	x	x	x
Change oil separator element			x	x	x	x
Change compressor oil (ZR/ZT: 2y) (Roto inject oil)	x			x	x	x
Change belt(s)				x	x	x
Check for refridgerant leaks(FF only)				x	x	x
Check Dewpoint & Indicator Lamps(FFonly)				x	x	x
Overhaul water drain				x	x	x
Overhaul unloader valve				x	x	x
Replace element(s) (use exchange elt.)						x

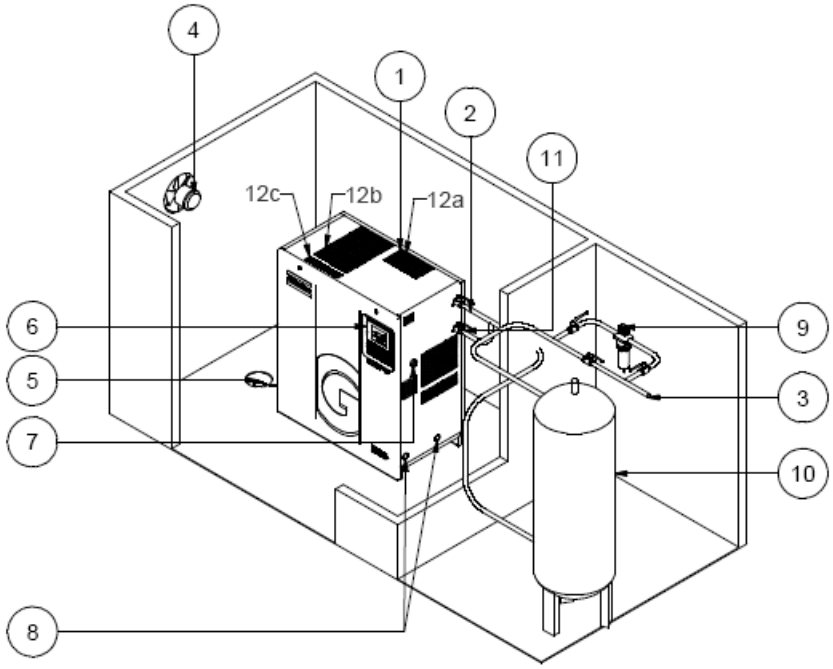
The activities are recommended activities only. Some activities may change depending on local conditions and tilisation.

Note:-If Roto Xtend duty fluid is used then oil change interval is 6000 hrs for ambient more than 35 degree.

Parts included at each visit GX7-11 Redesign

	RHRS		RHRS		RHRS		RHRS	
	4000	Visit A	8000	Visit B	16000	Visit C	24000	Visit D
1	2901091900	Filter/Separator	2901091900	Filter/Separator	2901091900	Filter/Separator	2901091900	Filter/Separator
2			2901109500	Mpv Kit	2901109500	Mpv Kit	2901109500	Mpv Kit
3			2901186100	Unloader	2901186100	Unloader	2901186100	Unloader
4								
5	2202884106	v-belt set (2x)	2202884106	v-belt set (2x)	2202884106	v-belt set (2x)	2202884106	v-belt set (2x)
6							2901056100	Shaft Seal Kit
7							2989016400	Service Stage
8								

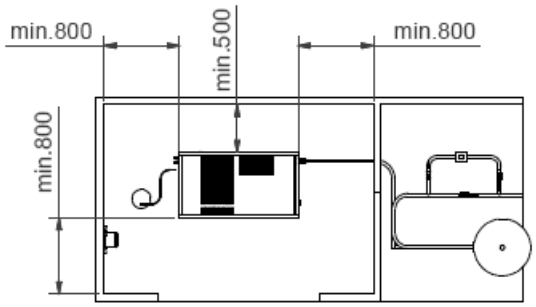
3. GA 11+ 30 Pack/FF: - also applicable to GA11-30c



Steps:-

1. Layout: - Install the compressor on a solid level floor suitable for taking its weight.

The minimum free area tobe reserved for the compressor installation is as shown in below fig.



2. Outlet valve: - the position of outlet valve is as shown in fig1.

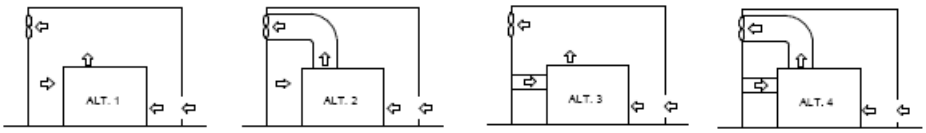
3. Delivery pipe size: - Recommended Del pipe size can be calculated by following formula considering the pressure drop as 0.1bar (1.5 psi)

DP = (L * 450 * QC^1.85)/ (D^5*P)
Where DP-recommended pressure drop
L- Length of Del pipe in m
D -Dia of delivery pipe in mm
P -absolute pressure at the compressor outlet
QC -Free air delivery of compressor in L/S

Minimum pipe size should be more /equal to outlet valve connection. In this case it is 1 inches.

4. Ventilation: - The inlet grids & ventilation fan should be installed in such way that any recirculation of cooling air should be avoided.
The air velocity to the grid must be limited to 5 m/s.
The max allowable pressure drop over the cooling air ducts is 30 Pa.If it is greater than this value then fan is needed at the outlet of cooling ducts .Pl consult Atlas copco.
For GA11+30 alternatives 1 & 3 the required ventilation capacity to limit temperature of the compressor room can be calculated from the following formula:

Qv = 0.92N/DT
Qv - required ventilation capacity in m^3/s
N - Nominal motor power of compressor in kW
DT - Temp rise in compressor room



The direction of the cooling flows may never be inverted

For alternatives 2 & 4 fan capacity should match the compressor fan capacity at a pressure head equal to the pressure drop across the cooling ducts.

5. The drain pipes to the drain collector must not dip into water of the drain collector. Atlas copco has oil /water separator (type OSD) to separate major parts of oil from the condensate to ensure that the condensate the requirements of environment codes.

6. Electric cable size: - Refer cubicle panel position no.6 & cable entry position no.7 as shown in above fig.

Cable size

Type	V	Hz	Approval	$I_{tot}P$ (1)	$I_{tot}FF$ (1)	Recommended wire section (2)	Recommended wire section (3)	Main fuses (A) (4)
GA 11 +	400	50	IEC	27	30	4 x 6 mm^2	4 x 10 mm^2	32 (16)
GA 15 +	400	50	IEC	36	39	4 x 10 mm^2	4 x 16 mm^2	50 (25)
GA 18 +	400	50	IEC	44	49	4 x 16 mm^2	4 x 25 mm^2	63 (32)
GA 22 +	400	50	IEC	54	59	4 x 16 mm^2	4 x 25 mm^2	63 (32)
GA 30	400	50	IEC	73	78	4 x 35 mm^2	4 x 50 mm^2	100 (50)

Remarks :

(1): current in the supply lines at maximum load

(2): recommended wire section under standard conditions

(3): recommended wire section under worst case conditions

(4): recommended fuse value (value between () valid in case of 6 fuses for parallel supply cables)

Fuse specifications IEC: gL/gG

7. Electrical Connections:-

Step	Action
1	Ensure that the supply voltage matches the voltage on the data plate.
2	Fit an isolating switch near the compressor. For Full-Feature compressors: fit an isolating switch near the dryer.
3	Fit fuses in the incoming wiring. Check the condition of all incoming wiring and make connections. See Electrical diagrams.

8. Refer fig, position is shown for provision of inlet & outlet connections in case of energy recovery system (optional)

9. Filter type DD for general purposes. The filter traps solid particles down to 1 micron with a max. Of oil carry over 0.5mg/m^3.A high efficiency filter type PD may be installed down stream of a DD filter. This filter traps solid particles down to 0.01 micron with a max of oil carry over of 0.01 mg/m^3.
If oil vapours & odours are undesirable a QD type filter should be installed down stream of PD filter.
On GA compressors without dryer & full feature compressors with IFD dryer, the filters for general purpose are optional.

10. The air receiver (Optional) should be installed in a frost -free room on a solid level floor.
For normal air consumption the volume of airnet (receiver & piping) can be calculated as follows:

V = (0.25*Qc*P1*T0)/ (fmax*dp*T1)

V=Volume of airnet in Lt
Qc=Free air delivery of compressor in l/s
P1=compressor air inlet pressure in bar absolute
Fmax=cycle frequency =1 cycle/30s
Dp=Punload-Pload in bar
T1=compressor air inlet temp in K
T0=air receiver temp in k

11. Dryer bypass –optional on compressors with IFD

12. Condensate trap

13. Setting of overload relay & fan motor:-

Overload relay and fuses

		GA 11+	GA 15+	GA 18+	GA 22+	GA 30
Frequency (Hz)	Voltage (V)	Overload relay F21 (A)	Overload relay F21 (A)	Overload relay F21 (A)	Overload relay F21 (A)	Overload relay F21 (A)
IEC	Star-delta					
50	400	16	21	25	33	44

Fan motor -2.3 amps

Service Interventions:-

Preventive maintenance schedule

General

Period	Operation
Daily	Check oil level.
"	Check readings on display.
"	Check that condensate is discharged during loading.
"	Drain condensate.
"	Check air filter service indicator.
3-monthly	Check coolers, clean if necessary.
"	For units with IFD: Check condenser of dryer and clean if necessary.
"	Remove air filter element. Clean using an air jet and inspect. More frequently when operating in a dusty atmosphere. Replace damaged or heavily contaminated elements.

Running hours	Service plan	Operation
2000	--	If Atlas Copco Roto-Foodgrade Fluid is used, change oil and oil filter.
4000	A	If Atlas Copco Roto-inject Fluid is used, change oil and oil filter.
4000	A	Replace air filter element.(more frequently at dusty atmosphere.)
8000	B	Check pressure and temperature readings.
8000	B	Carry out an LED/display test.
8000	B	Check for possible air leakage.
8000	B	Clean coolers.
8000	B	For GA with IFD: Clean condenser of dryer.
8000	B	If provided, remove, dismantle and clean float valve of condensate trap. See section Condensate system.
8000	B	Test temperature shut-down function.
8000	B	Test safety valves.
8000	B	If Atlas Copco Roto-Xtend Duty Fluid is used, change oil and oil filter.
8000	B	Replace oil separator. Or when the pressure drop over the separator exceeds 1 bar. Check the pressure drop when the compressor is running loaded and preferably with a stable working pressure.

Note**: -** For dusty environment & air oil temp above 90 degree, Pl consult Atlas Copco for optimized oil & air filter change interval.

Service Kits:-

1.2901 0522 00 – Rot inject oil 20 l
2.1613 8720 00 - Air filter
3.2901 0245 01 - Rot inject oil 5 l
4.1613 6105 90 - oil filter
5.2901 0779 00- Kit oil separator (with bolted MPV)
6.2901 0779 01- kit oil separator (with threaded MPV)
7.2901 0695 00-kit air filter & oil filter

Insurance spares:-

1.2901 0002 01-Unloader valve kit
2.2901 0997 00-MPV kit Screwed type
3.2901 0006 00-MPV kit integrated
4.29010068 00-Kit Thermostat 40 degree
5.2901 0414 00-Kit Thermostat 60 degree
6.2901 0712 00-Kit water separator
7.2901 0748 00-Kit WSD 25 & 40
8.2901 5005 00-Kit shaft seal kit
9.1089 0702 02 –Sol valve 220volt
10.1089 0575 54-pressure transducer
11.1900 0710 12-Electronikon ELII
12.1089 0574 55-temp sensor
13.0574 9911 14-Hose assembly (cooler inlet)
14.0574 9910 10-Hose assembly GA11+, GA15+ (cooler outlet)
15.0574 9911 17-Hose assembly GA18+, GA22+, GA30 (cooler outlet)
16.0574 9911 13-Hose assembly
17.0574 9911 15-Hose assembly
18.1622 0015 00-Hose assembly
19.1622 0590 00-Hose assembly

List of Activities

Equipment: GA11+30					
Visit Type	Visit I	Visit A	Visit B	Visit D	Visit F
Visit Interval		2000	8000	24000	1000
Check service readings (converter)	x	X	x	x	x
Check electrical components	x	X	x	x	x
Check Elektronikon functions	x	X	x	x	x
Check for air- water- & oil leakage	x	X	x	x	x
Check safety valve+switches	x	X	x	x	x
Check/clean condensate drain(s)	x	X	x	x	x
Check/clean scavenge line	x	X	x	x	x
Check oil- & aftercooler,clean extern	x	X	x	x	x
Check temperatures and pressures.	x	X	x	x	x
Check oil level	x	X	x	x	x
Check condition of air intake chamber	x	X	x	x	x
Check condition of cooling fan assy (AC)	x	X	x	x	x
Check/clean cooling fins	x	X	x	x	x
Replace cubicle filters					
Clean converter prints with air jet					
Check operation seq.(multi-compr sites)	x	X	x	x	x
Check LAT (FF units)	x	X	x	x	x
Check rotation of cooling fan (FF units)					
Clean condenser (FF units)			x	x	
Change compressor oil filter		X	x	x	
Change air filter element(s)		X	x	x	x
Change compressor oil ((ZR/ZT:2y)(Rot inject fluid)		X	x	x	
Grease motor bearings		X	x	x	
Change oil separator element			x	x	
Overhaul WSD(1 for Pack/2 WSDs for FF)			x	x	
Overhaul oil injection valve			x	x	
Change thermostatic valve			x	x	
Overhaul min. press valve			x	x	
Change coupling element(s)				x	
Change or overhaul element				x	
Overhaul main drive motor				x	
Change radial cooling fan assembly				x	

The activities are recommended activities only. Some activities may change depending on local conditions and utilisation.

X

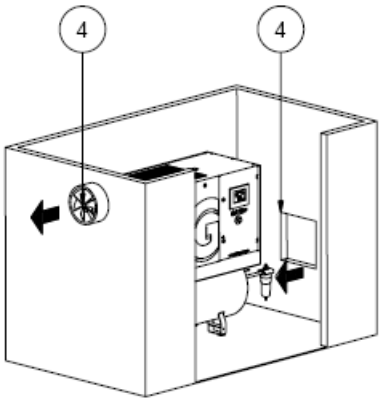
X

Note:-If Roto Xtend duty fluid is used then oil change interval is at 6000 hrs for air oil temp more than 106 degrees.

Parts included at each visit GA11+30

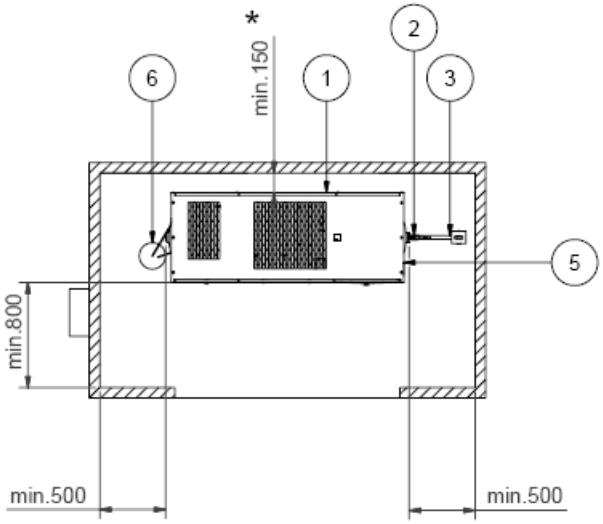
	RHRS		RHRS		RHRS	
	2000	Visit A	8000	Visit B	24000	Visit D
1	2901069502	filter kit	2901099800	Prev Maintenance Kit	2901099800	Prev Maintenance Kit
2			2901161600	thermostatic valve kit	2901161600	thermostatic valve kit
3						C-77-H-06-Service Element With Drive
4					2901071602	Bearing Kit
5					2901500500	Shaft Seal Kit
6						

4. GA 15-22 Pack/FF FM & TM: -



Steps:-

1. Layout: - Install the compressor on a solid level floor suitable for taking its weight.
The minimum free area tobe reserved for the compressor installation is as shown in below fig.



2. Outlet valve: - the position of outlet valve is as shown in fig1.

3. Delivery pipe size: - Recommended Del pipe size can be calculated by following formula considering the pressure drop as 0.1bar (1.5 psi)

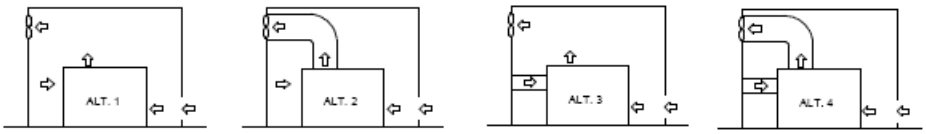
DP = (L * 450 * QC^1.85)/ (D^5*P)
Where DP-recommended pressure drop
L- Length of Del pipe in m
D -Dia of delivery pipe in mm
P -absolute pressure at the compressor outlet
QC -Free air delivery of compressor in L/S

Minimum pipe size should be more /equal to outlet valve connection. In this case it is 1 inches.

4. Ventilation: - The inlet grids & ventilation fan should be installed in such way that any recirculation of cooling air should be avoided.
The air velocity to the grid must be limited to 5 m/s.

The max allowable pressure drop over the cooling air ducts is 30 Pa.If it is greater than this value then fan is needed at the outlet of cooling ducts .Pl consult Atlas copco.
For GA11+30 alternatives 1 & 3 the required ventilation capacity to limit temperature of the compressor room can be calculated from the following formula:

Qv = 0.92N/DT
Qv - required ventilation capacity in m^3/s
N - Nominal motor power of compressor in kW
DT - Temp rise in compressor room



The direction of the cooling flows may never be inverted

For alternatives 2 & 4 fan capacity should match the compressor fan capacity at a pressure head equal to the pressure drop across the cooling ducts.

5. The drain pipes to the drain collector must not dip into water of the drain collector. Atlas copco has oil /water separator (type OSD) to separate major parts of oil from the condensate to ensure that the condensate the requirements of environment codes.

6. Electric cable size: - Refer cubicle panel position no.6 & cable entry position no.7 as shown in above fig.

Cable size

		GA 15	GA 18	GA 22
Frequency Hz	**Voltage (V)**	**Cable size**	**Cable size**	**Cable size**
	Star-delta	mm^2	mm^2	mm^2
50	400	10	16	25

7. Electrical Connections:-

Step	Action
1	Ensure that the supply voltage matches the voltage on the data plate.
2	Fit an isolating switch near the compressor. For Full-Feature compressors: fit an isolating switch near the dryer.
3	Fit fuses in the incoming wiring. Check the condition of all incoming wiring and make connections. See Electrical diagrams.

8. Refer fig, position is shown for provision of inlet & outlet connections in case of energy recovery system (optional)

9. Filter type DD for general purposes. The filter traps solid particles down to 1 micron with a max. Of oil carry over 0.5mg/m^3.A high efficiency filter type PD may be installed down stream of a DD filter. This filter traps solid particles down to 0.01 micron with a max of oil carry over of 0.01 mg/m^3.

If oil vapours & odours are undesirable a QD type filter should be installed down stream of PD filter.
On GA compressors without dryer & full feature compressors with IFD dryer, the filters for general purpose are optional.

10. The air receiver (Optional) supplied with compressor .

11. Dryer bypass –optional on compressors with IFD

12. Condensate trap

13. Setting of overload relay:-

Overload relay and fuses

		GA 15	GA 15	GA 18	GA 18	GA 22	GA 22
Frequency (Hz)	**Voltage (V)**	**Overload relay F21 (A)**	**Main fuses, compressor supply (A)**	**Overload relay F21 (A)**	**Main fuses, compressor supply (A)**	**Overload relay F21 (A)**	**Main fuses, compressor supply (A)**
	Star-delta		gL/gG		gL/gG		gL/gG
50	400	23	50	27	63	34	80

Service Interventions:-

Preventive maintenance schedule

General

Period	Operation
Daily	Check oil level.
"	Check readings on display.
"	Check that condensate is discharged during loading.
"	Drain condensate.
"	Check air filter service indicator.
3-monthly	Check coolers, clean if necessary.
"	For units with IFD: Check condenser of dryer and clean if necessary.
"	Remove air filter element. Clean using an air jet and inspect. More frequently when operating in a dusty atmosphere. Replace damaged or heavily contaminated elements.

Running hours	Service plan	Operation
2000	--	If Atlas Copco Roto-Foodgrade Fluid is used, change oil and oil filter.
4000	A	If Atlas Copco Roto-inject Fluid is used, change oil and oil filter.
4000	A	Replace air filter element.(more frequently at dusty atmosphere.)
8000	B	Check pressure and temperature readings.
8000	B	Carry out an LED/display test.
8000	B	Check for possible air leakage.
8000	B	Clean coolers.
8000	B	For GA with IFD: Clean condenser of dryer.
8000	B	If provided, remove, dismantle and clean float valve of condensate trap. See section Condensate system.
8000	B	Test temperature shut-down function.
8000	B	Test safety valves.
8000	B	If Atlas Copco Roto-Xtend Duty Fluid is used, change oil and oil filter.
8000	B	Replace oil separator. Or when the pressure drop over the separator exceeds 1 bar. Check the pressure drop when the compressor is running loaded and preferably with a stable working pressure.

Note**: -** For dusty environment & air oil temp above 90 degree, Pl consult Atlas Copco for optimized oil & air filter change interval.

Service Kits:-

1.2901 0522 00 – Rot inject oil 20 l
2.1613 8720 00 - Air filter
3.2901 0245 01 - Rot inject oil 5 l
4.1613 6105 90 - oil filter
5.2903 0351 01- Kit oil separator

Insurance spares:-

1.2901 0002 01-Unloader valve kit
2.2901 0997 00-MPV kit Screwed type
3.2901 0006 00-MPV kit integrated
4.29010068 00-Kit Thermostat 40 degree
5.2901 0414 00-Kit Thermostat 60 degree
6.2901 0712 00-Kit water separator
7.2901 0748 00-Kit WSD 25 & 40
8.2901 5005 00-Kit shaft seal kit
9.1089 0702 02 –Sol valve 220volt
10.1089 0575 54-pressure transducer
11.1900 0712 71-Electronikon ELI
12.1089 0574 55-temp sensor
13.0574 9911 14-Hose assembly (cooler inlet)
14.0574 9910 10-Hose assembly
15.0574 9911 17-Hose assembly
16.0574 9911 13-Hose assembly
17.0574 9911 15-Hose assembly
18.1622 0015 00-Hose assembly
19.1622 0590 00-Hose assembly

List of Activities

Equipment: GA15-22					
Visit Type	Visit I	Visit A	Visit B	Visit D	Visit F
Visit Interval		2000	8000	24000	1000
Check service readings (converter)	x	x	x	x	x
Check electrical components	x	x	x	x	x
Check Elektronikon functions	x	x	x	x	x
Check for air- water- & oil leakage	x	x	x	x	x
Check safety valve+switches	x	x	x	x	x
Check/clean condensate drain(s)	x	x	x	x	x
Check/clean scavenge line	x	x	x	x	x
Check oil- & aftercooler,clean extern	x	x	x	x	x
Check temperatures and pressures.	x	x	x	x	x
Check oil level	x	x	x	x	x
Check condition of air intake chamber	x	x	x	x	x
Check condition of cooling fan assy (AC)	x	x	x	x	x
Check/clean cooling fins	x	x	x	x	x
Replace cubicle filters					
Clean converter prints with air jet					
Check operation seq.(multi-compr sites)	x	x	x	x	x
Check LAT (FF units)	x	x	x	x	x
Check rotation of cooling fan (FF units)					
Clean condenser (FF units)			x	x	
Change compressor oil filter		x	x	x	
Change air filter element(s)		x	x	x	x
Change compressor oil (ZR/ZT: 2y) (Roto inject fluid)		x	x	x	
Grease motor bearings		x	x	x	
Change oil separator element			x	x	
Overhaul WSD(1 for Pack/2 WSDs for FF)			x	x	
Overhaul oil injection valve			x	x	
Change thermostatic valve			x	x	
Overhaul min. press valve			x	x	
Change coupling element(s)				x	
Change or overhaul element				x	
Overhaul main drive motor				x	
Change radial cooling fan assembly				x	

The activities are recommended activities only. Some activities may change depending on local conditions and utilisation.

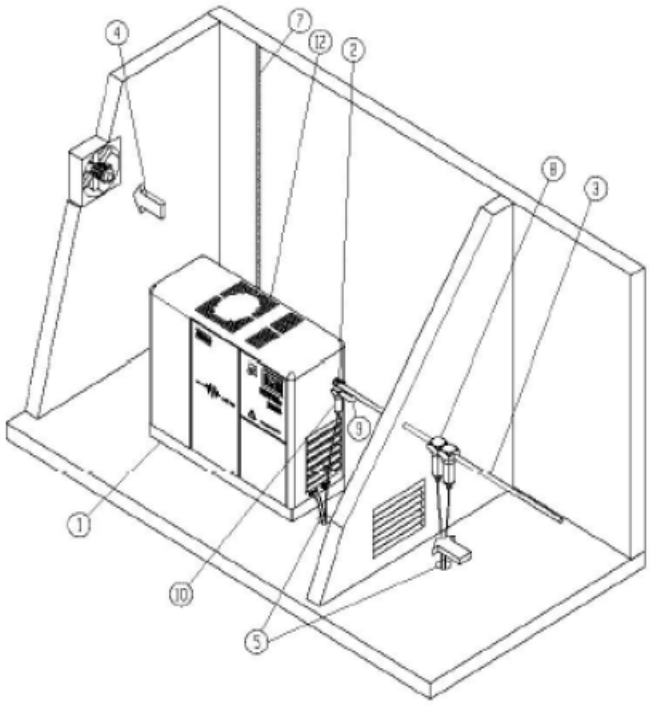
Note:-If Roto xtend duty fluid is used then oil change interval is at 6000 hrs for air oil temp more than 106 degree.

Parts included at each visit
GA15-22

	RHRS		RHRS		RHRS	
	2000	Visit A	8000	Visit B	24000	Visit D
1	2901107700	Scavenge	2901118900	A	2901118900	A Maintenance Kit Ga15/22
2	2901086601	Filter Kit	2901161600	thermostatic	2901161600	thermostatic valve kit
3			2901071200	Service Kit	2901071200	Service Kit Wsd25-40
4			2901074800	Kit Wsd 25/40	2901074800	Kit Wsd 25/40
5					2901500500	Shaft Seal Kit
6					2901071600	Motor Bearing Kit
7						C-77-H-06-Service Element
8						
9						

5. GA18-30 VSD:-

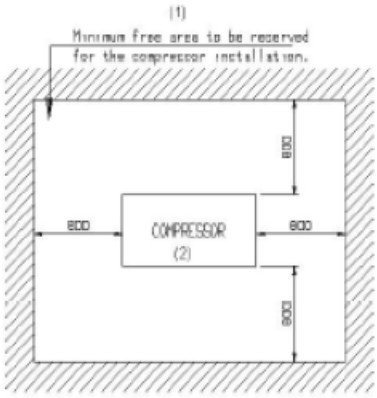
GA 18 VSD up to GA 30 VSD



Steps:-

1. Layout: - Install the compressor on a solid level floor suitable for taking its weight.

The minimum free area tobe reserved for the compressor installation is as shown in below fig.



2. Outlet valve: - the position of outlet valve is as shown in fig1.

3. Delivery pipe size: - Recommended Del pipe size can be calculated by following formula considering the pressure drop as 0.1bar (1.5 psi)

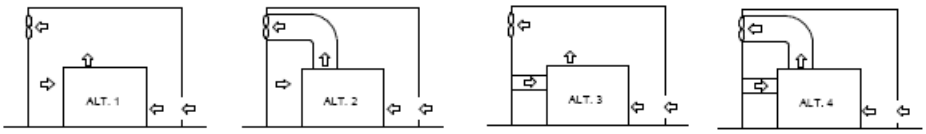
DP = (L * 450 * QC^1.85)/ (D^5*P)
Where DP-recommended pressure drop
L- Length of Del pipe in m
D -Dia of delivery pipe in mm
P -absolute pressure at the compressor outlet
QC -Free air delivery of compressor in L/S

Minimum pipe size should be more /equal to outlet valve connection. In this case it is 1 inches.

4. Ventilation: - The inlet grids & ventilation fan should be installed in such way that any recirculation of cooling air should be avoided.
The air velocity to the grid must be limited to 5 m/s.
The max allowable pressure drop over the cooling air ducts is 30 Pa.If it is greater than this value then fan is needed at the outlet of cooling ducts .Pl consult Atlas copco.

For GA18-30 VSD alternatives 1 & 3 the required ventilation capacity to limit temperature of the compressor room can be calculated from the following formula:

Qv = 1.06N/DT for GAVSD workplace
Qv = (1.06N+1.3) DT work place with full feature
Qv - required ventilation capacity in m^3/s
N - Nominal motor power of compressor in kW
DT - Temp rise in compressor room



The direction of the cooling flows may never be inverted

For alternatives 2 & 4 fan capacity should match the compressor fan capacity at a pressure head equal to the pressure drop across the cooling ducts.

5. The drain pipes to the drain collector must not dip into water of the drain collector. Atlas copco has oil /water separator (type OSD) to separate major parts of oil from the condensate to ensure that the condensate the requirements of environment codes.

6. Electric cable size: - Refer cubicle panel position no.6 & cable entry position no.7 as shown in above fig.

Type	V	Hz	Approval	$I_{nom}P$ (1)	$I_{nom}FF$ (1)	recommended wire section (2)	recommended wire section (3)	Fuse (A) (4)
GA 18 VSD	400	50	IEC	51	58	4 x 16 mm^2	4 x 25mm^2	63

7. Electrical Connections:-

Step	Action
1	Ensure that the supply voltage matches the voltage on the data plate.
2	Fit an isolating switch near the compressor. For Full-Feature compressors: fit an isolating switch near the dryer.
3	Fit fuses in the incoming wiring. Check the condition of all incoming wiring and make connections. See Electrical diagrams.

8. Filter type DD for general purposes. The filter traps solid particles down to 1 micron with a max. Of oil carry over 0.5mg/m^3.A high efficiency filter type PD may be installed down stream of a DD filter. This filter traps solid particles down to 0.01 micron with a max of oil carry over of 0.01 mg/m^3.
If oil vapours & odours are undesirable a QD type filter should be installed down stream of PD filter.
On GA compressors without dryer & full feature compressors with IFD dryer, the filters for general purpose are optional.

9. Dryer bypass –optional on compressors with IFD

10. High efficiency water separator which removes 90% of the moisture in the compressed air when by passing the dryer.

11. Setting of overload relay fan motor:- 2.3 amp

Service Interventions:-

Preventive maintenance schedule

General

Period	Operation
Daily	Check oil level.
„	Check readings on display.
„	Check that condensate is discharged during operation.
„	Check air filter service indicator.
„	**Drain condensate.**
3-monthly	Check coolers, clean if necessary.
„	Visually inspect the filter pads of the converter cabinet. Clean with an air jet or replace if necessary. Inspect more frequently if the compressor is operated in a dusty environment.
„	On compressors with internal dryer: check condenser of dryer and clean if necessary.
„	Remove air filter element and inspect. If necessary, clean using an air jet and inspect. Inspect more frequently if the compressor is operated in a dusty environment. Replace damaged or heavily contaminated elements.

Running hours	Service plan	Operation
2000 (1)	—	If Atlas Copco Roto-Foodgrade Fluid is used, change oil and oil filter.
4000 (1)	A	If Atlas Copco Roto-Inject Fluid is used, change oil and oil filter.**(If air/oil temp is above 100^{0}C.Consult Atlas Copco for oil change)**
4000	B	Replace air filter element **(More frequently for dusty environment)**
4000	B	Check pressure and temperature readings.
4000	B	Carry out a LED/display test.
4000	B	Replace air filter pads of converter cabinet.
4000	B	Check for possible leakage.
4000	B	On air-cooled compressors: clean coolers.
4000	B	Remove, dismantle and clean float valve of condensate trap. See section Condensate system.
4000	B	Test temperature shut-down function.
4000	B	Have safety valve tested.
4000	B	Clean cooling fins of electric motor.
4000	B	Inspect the scavenging line and the the non-return valve for cleanness.
4000	B	Check operation of cooling fans of converter.
4000	B	Regrease drive motor bearings.
4000	B	Check the functioning of the blow-off solenoid valve after stopping and after pressing the emergency stop button.
8000	C	Have oil separator replaced.
8000	C	If Atlas Copco Roto-Xtend Duty Fluid is used, change oil and oil filter.

Note**: -** For dusty environment & air oil temp above 90 degree, Pl consult Atlas Copco for optimized oil & air filter change interval.

Service Kits:-

1.2901 0522 00 – Rot inject oil 20 l
2.1613 8720 00 - Air filter
3.2901 0245 01 - Rot inject oil 5 l
4.1613 6105 90 - oil filter
5.2901 0779 01- kit oil separator
6.2901 0695 00-kit air filter & oil filter

Insurance spares:-

1.2901 0997 00-MPV kit Screwed type
2.2902 0350 00-Kit Thermostat 75 degree
3.2901 1617 00-Kit Thermostat 60 degree
4.2901 0712 00-Kit water separator
5.2901 0748 00-Kit WSD 25 & 40
6.2901 5005 00-Kit shaft seal kit
7.1089 0580 03 –Sol valve 220volt
8.1089 0575 54-pressure transducer
9.1900 0710 12-Electronikon ELII
10.1089 0574 55-temp sensor
11.0574 9911 14-Hose assembly (cooler inlet)
12.0574 9910 10-Hose assembly
13.1622 0015 00-Hose assembly
14.1622 0590 00-Hose assembly
15.0574 9914 16-Hose assembly
16.1622 0073 00-Hose assembly(Full feature)
17.1622 0928 00-Hose assembly (pack)
18.2901 0745 00-Kit oil stop & check valve

List of Activities

Equipment: GA18-30 VSD					
Visit Type	Visit I	Visit A	Visit B	Visit D	Visit F
Visit Interval		2000	8000	24000	1000
Check service readings (converter)	x	x	x	x	x
Check electrical components	x	x	x	x	x
Check Elektronikon functions	x	x	x	x	x
Check for air- water- & oil leakage	x	x	x	x	x
Check safety valve+switches	x	x	x	x	x
Check/clean condensate drain(s)	x	x	x	x	x
Check/clean scavenge line	x	x	x	x	x
Check oil- & aftercooler,clean extern	x	x	x	x	x
Check temperatures and pressures.	x	x	x	x	x
Check oil level	x	x	x	x	x
Check condition of air intake chamber	x	x	x	x	x
Check condition of cooling fan assy (AC)	x	x	x	x	x
Check/clean cooling fins	x	x	x	x	x
Replace cubicle filters					
Clean converter prints with air jet					
Check operation seq.(multi-compr sites)	x	x	x	x	x
Check LAT (FF units)	x	x	x	x	x
Check rotation of cooling fan (FF units)					
Clean condenser (FF units)			x	x	
Change compressor oil filter		x	x	x	
Change air filter element(s)		x	x	x	x
Change compressor oil (ZR/ZT: y)(Rotoinject)		x	x	x	
Grease motor bearings		x	x	x	
Change oil separator element			x	x	
Overhaul WSD(1 for Pack/2 WSDs for FF)			x	x	
Overhaul oil injection valve			x	x	
Change thermostatic valve			x	x	
Overhaul min. press valve			x	x	
Change coupling element(s)				x	
Change or overhaul element				x	
Overhaul main drive motor				x	
Change radial cooling fan assembly				x	

The activities are recommended activities only. Some activities may change depending on local conditions and utilisation.

X

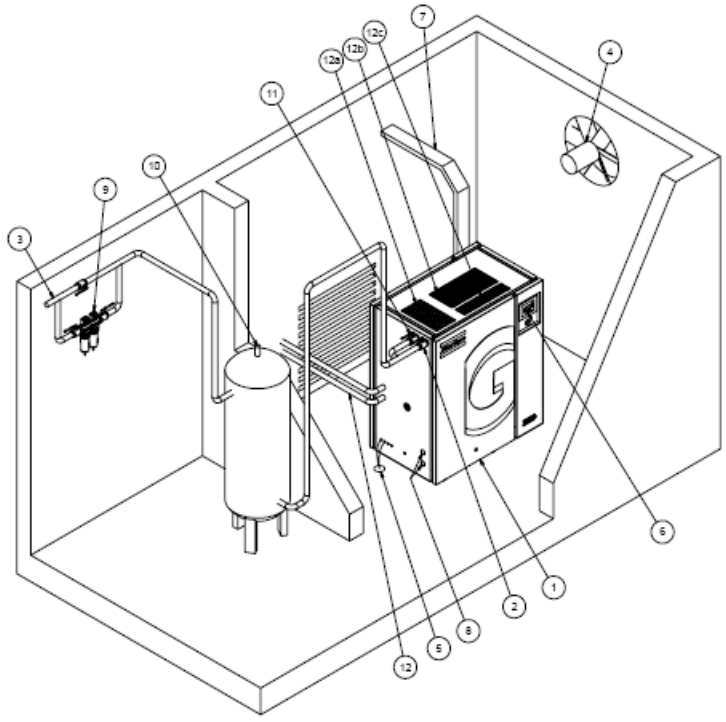
X

Note:-If Roto Xtend fluid is used then oil change interval is 6000 hrs for air oil temp more than 106 degree.

Parts included at each visit GA18-30 VSD

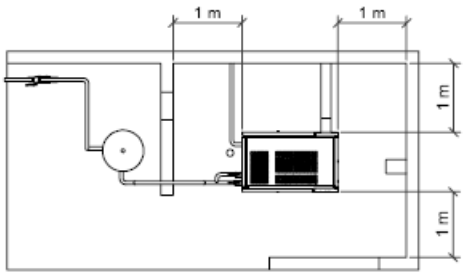
	RHRS		RHRS	
Visit A	8000	Visit B	24000	Visit D
filter kit	2901099800	Prev Maintenance Kit	2901099800	Prev Maintenance Kit
	2901041400	thermostatic valve kit	2901041400	thermostatic valve kit
				C-77-H-06-Service Element With Drive
			2901071602	Bearing Kit
			2901500500	Shaft Seal Kit

6. GA 30 + 45AP:-



Steps:-

1. Layout: - Install the compressor on a solid level floor suitable for taking its weight.
The minimum free area tobe reserved for the compressor installation is as shown in below fig.



Minimum free area to be reserved for the compressor installation

2. Outlet valve: - the position of outlet valve is as shown in fig1.

3. Delivery pipe size: - Recommended Del pipe size can be calculated by following formula considering the pressure drop as 0.1bar (1.5 psi)

DP = (L * 450 * QC^1.85)/ (D^5*P)
Where DP-recommended pressure drop

L- Length of Del pipe in m
D -Dia of delivery pipe in mm
P -absolute pressure at the compressor outlet
QC -Free air delivery of compressor in L/S

Minimum pipe size should be more /equal to outlet valve connection. In this case it is 11/2 inches.

4. Ventilation: - The inlet grids & ventilation fan should be installed in such way that any recirculation of cooling air should be avoided.

The air velocity to the grid must be limited to 5 m/s.
The max allowable pressure drop over the cooling air ducts is 30 Pa.If it is greater than this value then fan is needed at the outlet of cooling ducts .Pl consult Atlas copco.
The maximum air temp at the compressor intake is 46 degree

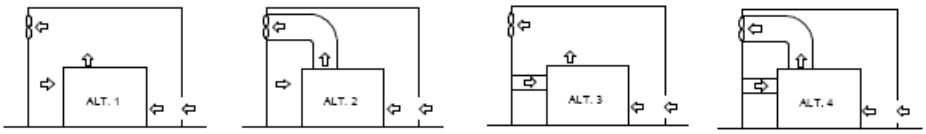
For GA 30+ up to GA 90 air-cooled alternatives 1 & 3 the required ventilation capacity to limit temperature of the compressor room can be calculated from the following formula:

Qv = 1.06N/DT for GA workplace

Qv = (1.06N+1.3) DT work place with full feature

Qv - required ventilation capacity in m^3/s

N - Nominal motor power of compressor in kW
DT - Temp rise in compressor room



The direction of the cooling flows may never be inverted

For alternatives 2 & 4 fan capacity should match the compressor fan capacity at a pressure head equal to the pressure drop across the cooling ducts.
For GA30+ up to GA90 water cooled compressors the ventilation capacity required to limit the compressor room temperature can be calculated as follows

Qv = 0.13N/dt for GA workplace compressors

Qv = (0.13N+1.3)/dt for GA workplace full feature compressors

5. The drain pipes to the drain collector must not dip into water of the drain collector. Atlas copco has oil /water separator (type OSD) to separate major parts of oil from the condensate to ensure that the condensate the requirements of environment codes.

6. Control module with modulating panel.

7. Electric cable size: -

		GA 30+ Workplace,	GA 30+ Workplace Full-Feature
Frequency Hz	**Voltage (V)**	**Cable size**	**Cable size**
	Star-delta	mm^2	mm^2
50	400	4x25	4x25

		GA 37 Workplace, cable	GA 37 Workplace Full-Feature
Frequency Hz	**Voltage (V)**	**Cable size**	**Cable size**
	Star-delta	mm^2	mm^2
50	400	4x35	4x35

		GA 45 Workplace,	GA 45 Workplace Full-Feature
Frequency Hz	**Voltage (V)**	**Cable size**	**Cable size**
	Star-delta	mm^2	mm^2
50	400	4x50	4x50

8. Provision for energy recovery system

9. Filter type DD for general purposes. The filter traps solid particles down to 1 micron with a max. Of oil carry over 0.5mg/m^3.A high efficiency filter type PD may be installed down stream of a DD filter. This filter traps solid particles down to 0.01 micron with a max of oil carry over of 0.01 mg/m^3.
If oil vapours & odours are undesirable a QD type filter should be installed down stream of PD filter.
On GA compressors without dryer & full feature compressors with IFD dryer, the filters for general purpose are optional.

10. Safety valve

11. By –pass system to by –pass the dryer during service operations.

12. On water-cooled compressors water flow & pressure tobe adjusted depending upon local conditions.
Cooling water quality & water pressure pl refer instruction book or consult Atlas copco.

13. Setting of main motor overload relay fan motor:-

Overload relay and fuses

		GA 30 +	GA 30 +	GA 37	GA 45
Frequency (Hz)	**Voltage (V)**	**Overload relay F21 (A)**	**Main fuses, compressor supply (A)**	**Overload relay F21 (A)**	**Overload relay F21 (A)**
IEC	Star-delta		gL/gG		
50	400	41	See table below and Electric cable size	50	62

Maximum fuse settings

Cable size (mm^2)	Maximum fuse (A)
1.5	16
10	50
25	80
35	100
50	125
70	160
95	200
120	250

		GA 30 +	GA 37	GA 45
Frequency (Hz)	**Voltage (V)**	**Fan motor circuit breaker Q15 (A)**	**Fan motor circuit breaker Q15 (A)**	**Fan motor circuit breaker Q15 (A)**
	Star-delta			
50	400	1.6	2.3	2.3

Service Interventions:-

Preventive maintenance schedule

General

Period	Operation
Daily	Check oil level.
"	Check readings on display.
"	Check air filter service indicator.
"	On water-cooled units: Check for cooling water flow.
3-monthly	Check coolers, clean if necessary.
"	Check condenser of dryer and clean if necessary.
"	Remove air filter element. Clean using an air jet and inspect. More frequently when operating in a dusty atmosphere. Replace damaged or heavily contaminated elements.
"	Check that condensate is discharged when pressing the test button on top of the electronic water drain(s).

Running hours	Operation
4000 (1)	If Atlas Copco Roto-Foodgrade Fluid is used, change oil and oil filter. If Atlas Copco Roto-Inject Fluid is used, change oil and oil filter. **(If air/oil temperature is above 100 °C, consult Atlas Copco for oil change.)**
4000 (1)	Replace the air filter element. **(More frequently for dusty environment.)** Replace the filter element of the electric cabinet (where applicable). Clean coolers. Check pressure and temperature readings. Carry out a LED/display test. Check for leakages. Open the manual drain valve (Dm) to clean the filter of the automatic drain. See sectionCondensate system Test temperature shut-down function.
4000 (1)	On water-cooled units: Check for possible water leakage.
8000 (2)	If Atlas Copco Roto-Xtend Duty Fluid is used, change oil and oil filter. Have the oil separator element replaced.

(1): or yearly, whichever comes first

(2): or every 2 years, whichever comes first

Service Kits:-

1.2901 0522 00 - Roto inject oil 20 l
2.2901 0045 01 - Roto inject oil 210 l
3.2901 0245 01- Roto inject oil 5 l
4.2901 1641 00 – Air oil filter kit
5.2901 1643 00 – oil separator kit

Insurance spares:-

1.2901 1951 00-Motor overhaul kit
2.2901 1622 00 –Unloader kit
3.2901 1453 00- Minimum pressure valve kit
4.2901 1616 00-Thermostatic valve kit 40 degree
5. 2901 1617 00-Thermostatic valve kit 60 degree
6. 2901 1618 00-Thermostatic valve kit 75 degree (Tropical)
7.1089 0702 02 –Sol valve 220volt 50 Hz
8.1089 0575 54-pressure transducer
9.1900 0710 12-Electronikon ELII
10.1089 0574 55-temp sensor
11.0574 9918 21-Hose assembly
12.1622 6466 00-Hose assembly
13.2901 0217 02-Kit oil stop & check valve
14.2901 0750 00-WSD kit
15.1622 5739 00-Del hose
16.0575 1281 02-Flexible
17.0574 9911 03-Hose assembly for water-cooled
18.0574 9917 12-Hose assembly for water-cooled
19.1089 0574 49-temp sensor for GA water-cooled
20.0574 9917 11-Flexible
21.0575 1280 56 –Flexible
22.1089 0702 13-Sol valve 110 v 50 HZ (for MKV)
23.1900 5200 11-Electronikon Regulator Graphic MKV
24.1900 5200 01-Electronikon Regulator Graphic MKV

List of Activities

Equipment: GA30+45 (A)Workplace					
Visit Type	Visit I	Visit A	Visit B	Visit D	Visit F
Visit Interval		4000	8000	24000	2000
Check service readings (converter)	x	x	x	x	x
Check electrical components	x	x	x	x	x
Check Elektronikon functions	x	x	x	x	x
Check for air- water- & oil leakage	x	x	x	x	x
Check safety valve+switches	x	x	x	x	x
Check/clean condensate drain(s)	x	x	x	x	x
Check/clean scavenge line					
Check oil- & aftercooler,clean extern	x	x	x	x	x
Check temperatures and pressures.	x	x	x	x	x
Check oil level	x	x	x	x	x
Check condition of air intake chamber	x	x	x	x	x
Check condition of cooling fan assy (AC)	x	x	x	x	x
Check/clean cooling fins	x	x	x	x	x
Replace cubicle filters					
Clean converter prints with air jet					
Check operation seq.(multi-compr sites)	x	x	x	x	x
Check LAT (FF units)	x	x	x	x	x
Check rotation of cooling fan (FF units)					
Clean condenser (FF units)	x	x	x	x	x
Change compressor oil filter		x	x	x	x
Change air filter element(s) (More frequently for dusty environment)		x	x	x	x
Change compressor oil (ZR/ZT: 2y) (Rotoinject fluid)		x	x	x	x
Grease motor bearings			x	x	
Change oil separator element			x	x	
Overhaul WSD(1 for Pack/2 WSDs for FF)			x	x	
Overhaul oil injection valve			x	x	
Change thermostatic valve			x	x	
Overhaul min. press valve			x	x	
Change coupling element(s)					
Change or overhaul element			x	x	
Overhaul main drive motor			x	x	
Change radial cooling fan assembly					

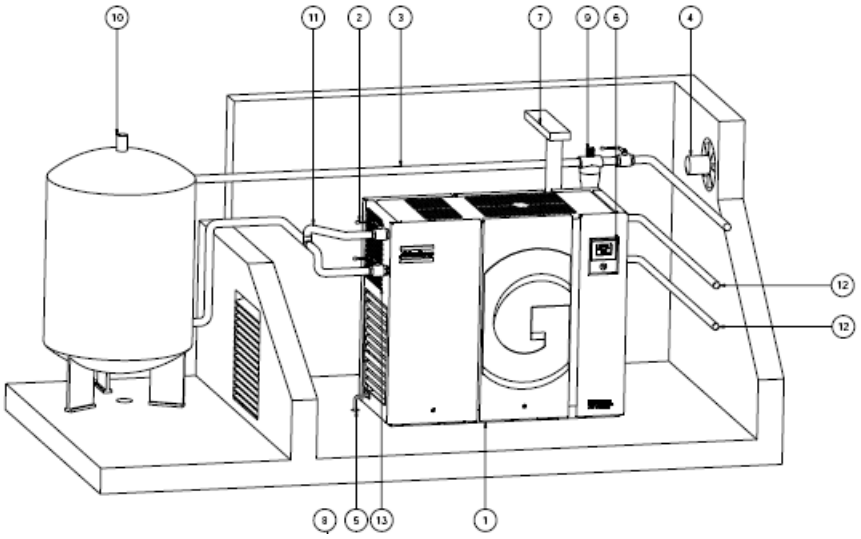
The activities are recommended activities only. Some activities may change depending on local conditions and utilisation.

Note :-If Roto Xtend fluid is used then oil change interval is 6000 hrs for air oil temp more than 106 degree.

Parts included at each visit
GA30+45

RHRS 4000	Visit A	RHRS 8000	Visit B	RHRS 24000	Visit D
2901164100	Filter 4000	2901164800	Prev	2901164800	Prev Maintenance Kit Ga30-45
		2901161600	thermostatic	2901161600	thermostatic valve kit
				2901063320	Kit Set Of Wearing Parts
				2901195100	Motor Overhaul Ga 30-45+
				2901164400	Element Mounting Kit Ga30-75+
					C-111 Service Element With Drive

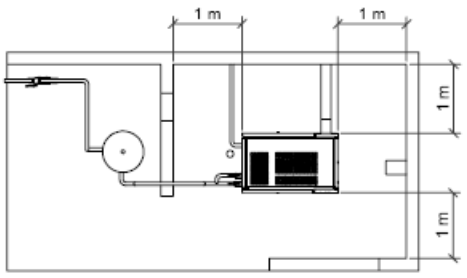
7. GA 37 + 75AWP:-



Steps:-

1. Layout: - Install the compressor on a solid level floor suitable for taking its weight.

The minimum free area tobe reserved for the compressor installation is as shown in below fig.



Minimum free area to be reserved for the compressor installation

2. Outlet valve: - the position of outlet valve is as shown in fig1.

3. Delivery pipe size: - Recommended Del pipe size can be calculated by following formula considering the pressure drop as 0.1bar (1.5 psi)

DP = (L * 450 * QC^1.85)/ (D^5*P)
Where DP-recommended pressure drop
L- Length of Del pipe in m
D -Dia of delivery pipe in mm
P -absolute pressure at the compressor outlet
QC -Free air delivery of compressor in L/S

Minimum pipe size should be more /equal to outlet valve connection. In this case it is 11/2 inches.

4. Ventilation: - The inlet grids & ventilation fan should be installed in such way that any recirculation of cooling air should be avoided.

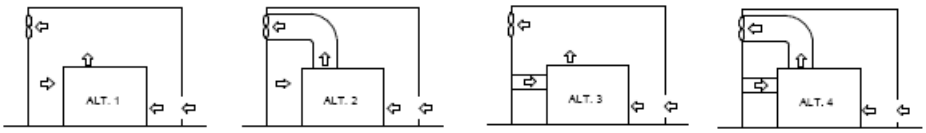
The air velocity to the grid must be limited to 5 m/s.
The max allowable pressure drop over the cooling air ducts is 30 Pa.If it is greater than this value then fan is needed at the outlet of cooling ducts .Pl consult Atlas copco.
The maximum air temp at the compressor intake is 46 degree

For GA 30+ up to GA 90 air-cooled alternatives 1 & 3 the required ventilation capacity to limit temperature of the compressor room can be calculated from the following formula:

Qv = 1.06N/DT for GA workplace

Qv = (1.06N+1.3) DT work place with full feature

Qv - required ventilation capacity in m^3/s
N - Nominal motor power of compressor in kW
DT - Temp rise in compressor room



The direction of the cooling flows may never be inverted

For alternatives 2 & 4 fan capacity should match the compressor fan capacity at a pressure head equal to the pressure drop across the cooling ducts.
For GA30+ up to GA90 water cooled compressors the ventilation capacity required to limit the compressor room temperature can be calculated as follows

Qv = 0.13N/dt for GA workplace compressors

Qv = (0.13N+1.3)/dt for GA workplace full feature compressors

5. The drain pipes to the drain collector must not dip into water of the drain collector. Atlas copco has oil /water separator (type OSD) to separate major parts of oil from the condensate to ensure that the condensate the requirements of environment codes.

6. Control module with modulating panel.

7. Electric cable size: -

		GA 37+ Workplace,
Frequency Hz	**Voltage (V)**	**Cable size**
	Star-delta	mm^2
50	400	4x35

		GA 45+ Workplace,
Frequency Hz	**Voltage (V)**	**Cable size**
	Star-delta	mm^2
50	400	4x50

		GA 55 Workplace,
Frequency Hz	**Voltage (V)**	**Cable size**
	Star-delta	mm^2
50	400	4x50

		GA 75 Workplace,
Frequency Hz	**Voltage (V)**	**Cable size**
	Star-delta	mm^2
50	400	7x35

8. Provision for energy recovery system

9. Filter type DD for general purposes. The filter traps solid particles down to 1 micron with a max. Of oil carry over 0.5mg/m^3.A high efficiency filter type PD may be installed down stream of a DD filter. This filter traps solid particles down to 0.01 micron with a max of oil carry over of 0.01 mg/m^3.
If oil vapours & odours are undesirable a QD type filter should be installed down stream of PD filter.
On GA compressors without dryer & full feature compressors with IFD dryer, the filters for general purpose are optional.

10. Safety valve

11. By –pass system to by –pass the dryer during service operations.

12. On water-cooled compressors water flow & pressure tobe adjusted depending upon local conditions.
Cooling water quality & water pressure pl refer instruction book or consult Atlas copco.

13. Setting of main motor overload relay fan motor:-

		GA 37+	GA 45+	GA 55	GA 75
Frequency (Hz)	**Voltage (V)**	**Overload relay F21 (A)**	**Overload relay F21 (A)**	**Overload relay F21 (A)**	**Overload relay F21 (A)**
	Star-delta				
50	400	50	62	71	97

Maximum fuse settings

Cable size (mm^2)	Maximum fuse (A)
1.5	16
10	50
25	80
35	100
50	125
70	160
95	200
120	250

		GA 37+	GA 45+	GA 55	GA 75
Frequency (Hz)	**Voltage (V)**	**Fan motor circuit breaker Q15 (A)**	**Fan motor circuit breaker Q15 (A)**	**Fan motor circuit breaker Q15 (A)**	**Fan motor circuit breaker Q15 (A)**
	Star-delta				
50	400	3.0	3.0	5.0	7.7

Service Interventions:-

Preventive maintenance schedule

General

Period	Operation
Daily	Check oil level.
"	Check readings on display.
"	Check air filter service indicator.
"	On water-cooled units: Check for cooling water flow.
3-monthly	Check coolers, clean if necessary.
"	Check condenser of dryer and clean if necessary.
"	Remove air filter element. Clean using an air jet and inspect. More frequently when operating in a dusty atmosphere. Replace damaged or heavily contaminated elements.
"	Check that condensate is discharged when pressing the test button on top of the electronic water drain(s).

Running hours	Operation
4000 (1)	If Atlas Copco Roto-Foodgrade Fluid is used, change oil and oil filter. If Atlas Copco Roto-Inject Fluid is used, change oil and oil filter. **(If air/oil temperature is above 100 °C, consult Atlas Copco for oil change.)**
4000 (1)	Replace the air filter element. **(More frequently for dusty environment.)** Replace the filter element of the electric cabinet (where applicable). Clean coolers. Check pressure and temperature readings. Carry out a LED/display test. Check for leakages. Open the manual drain valve (Dm) to clean the filter of the automatic drain. See sectionCondensate system Test temperature shut-down function.
4000 (1)	On water-cooled units: Check for possible water leakage.
8000 (2)	If Atlas Copco Roto-Xtend Duty Fluid is used, change oil and oil filter. Have the oil separator element replaced.

(1): or yearly, whichever comes first

(2): or every 2 years, whichever comes first

Service Kits:-

1.2901 0522 00 - Roto inject oil 20 l
2.2901 0045 01 - Roto inject oil 210 l
3.2901 0245 01- Roto inject oil 5 l
4.2901 1947 00 - Air oil filter kit for GA37+, GA45+
5.2901 1948 00 - Air oil filter kit for GA55, GA75
5.2901 1626 00 - oil separator kit

Insurance spares:-

1.2901 1951 00-Motor overhaul kit
2.2901 1622 00 –Unloader kit
3.2901 1453 00- Minimum pressure valve kit
4.2901 1616 00-Thermostatic valve kit 40 degree
5. 2901 1617 00-Thermostatic valve kit 60 degree
6. 2901 1618 00-Thermostatic valve kit 75 degree (Tropical)
7.1089 0702 02 –Sol valve 220volt 50 Hz
8.1089 0575 54-pressure transducer
9.1900 0710 12-Electronikon ELII
10.1089 0574 55-temp sensor
11.0574 9918 23-Hose assembly oil in GA37+,upto GA55 A
12.1622 3155 00-Hose assembly
13.2901 0217 02-Kit oil stop & check valve
14.2901 0750 00-WSD kit
15.1622 3154 00-Del hose
16.0574 9914 19-Flexible
17.1089 0574 49-temp sensor for GA water-cooled
18.0574 9917 06-Flexible
19.1089 0702 13-Sol valve 110 v 50 HZ (for MKV)
20.1900 5200 11-Electronikon Regulator Graphic MKV
21.1900 5200 01-Electronikon Regulator Graphic MKV
22.2901 1910 01-Motor overhaul kit GA55-75
23.0574 9918 18-oil out hose GA37+upto GA55A
24.0574 9914 21-oil in hose GA75A
25.0574 9914 22 -oil out hose GA75A
26.0574 9914 18-Hose assembly

List of Activities

Equipment: GA37+75				
Visit Type	Visit I	Visit A	Visit B	Visit D
Visit Interval		2000	8000	24000
Check service readings (converter)	x	x	x	x
Check electrical components	x	x	x	x
Check Elektronikon functions	x	x	x	x
Check for air- water- & oil leakage	x	x	x	x
Check safety valve+switches	x	x	x	x
Check/clean condensate drain(s)	x	x	x	x
Check/clean scavenge line				
Check oil- & aftercooler,clean extern	x	x	x	x
Check temperatures and pressures.	x	x	x	x
Check oil level	x	x	x	x
Check condition of air intake chamber	x	x	x	x
Check condition of cooling fan assy (AC)	x	x	x	x
Check/clean cooling fins	x	x	x	x
Replace cubicle filters		x	x	x
Clean converter prints with air jet				
Check operation seq.(multi-compr sites)	x	x	x	x
Check LAT (FF units)	x	x	x	x
Check rotation of cooling fan (FF units)				
Clean condenser (FF units)	x	x	x	x
Change compressor oil filter		x	x	x
Change air filter element(s) (More frequently for dusty environment)		x	x	x
Change compressor oil (ZR/ZT: 2y)(Rotoinject fluid)		x	x	x
Grease motor bearings		x	x	x
Change oil separator element			x	x
Overhaul WSD(1 for Pack/2 WSDs for FF)			x	x
Overhaul oil injection valve			x	x
Change thermostatic valve			x	x
Overhaul min. press valve			x	x
Change coupling element(s)				x
Change or overhaul element				x
Overhaul main drive motor				x
Change radial cooling fan assembly				

The activities are recommended activities only. Some activities may change depending on local conditions and utilisation.

Note:-If Roto Xtend duty fluid is used then oil change interval is 6000 hrs for air oil temp more than 106 degree.

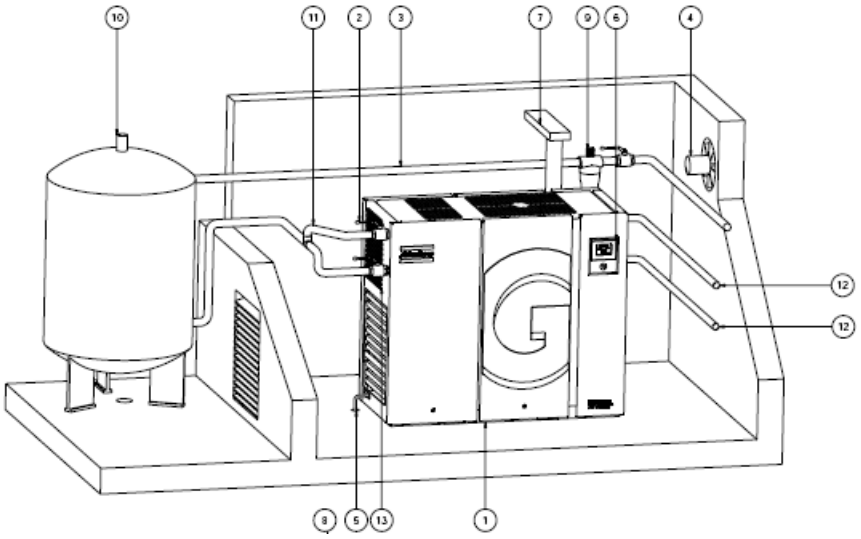
Parts included at each visit
GA37+,45+ (GA37+75)

	RHRS		RHRS		RHRS	
	4000	Visit A	8000	Visit B	24000	Visit D
1	2901194700	filter kit	2901162800	8000Hrs Maint	2901162800	8000Hrs Maint Kit
2			2901161600	thermostatic	2901161600	thermostatic valve kit
3						
4					2901063320	Kit Set Of Wearing
5					2901195100	Motor Overhaul Ga 30-
6					2901057000	Elmt Mounting Kit
7						C-111 Service Element
8						

Parts included at each visit
GA55,75 (GA37+75)

	RHRS		RHRS		RHRS	
	4000	Visit A	8000	Visit B	24000	Visit D
1	2901194800	filter kit	2901162900	8000Hrs	2901162900	8000Hrs Maint Kit Ga55-
2			2901161600	thermostatic	2901161600	thermostatic valve kit
3						
4					2901063320	Kit Set Of Wearing Parts
5					2901191001	Motor Overhaul
6					2901057000	Elmt Mounting Kit
7						C-111 Service Element
8						

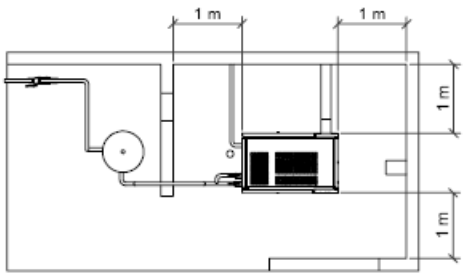
8. GA 37 -55VSD:-



Steps:-

1. Layout: - Install the compressor on a solid level floor suitable for taking its weight.

The minimum free area tobe reserved for the compressor installation is as shown in below fig.



Minimum free area to be reserved for the compressor installation

2. Outlet valve: - the position of outlet valve is as shown in fig1.

3. Delivery pipe size: - Recommended Del pipe size can be calculated by following formula considering the pressure drop as 0.1bar (1.5 psi)

DP = (L * 450 * QC^1.85)/ (D^5*P)
Where DP-recommended pressure drop
L- Length of Del pipe in m
D -Dia of delivery pipe in mm
P -absolute pressure at the compressor outlet
QC -Free air delivery of compressor in L/S

Minimum pipe size should be more /equal to outlet valve connection. In this case it is 11/2 inches.

4. Ventilation: - The inlet grids & ventilation fan should be installed in such way that any recirculation of cooling air should be avoided.

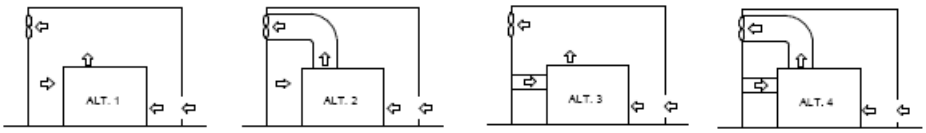
The air velocity to the grid must be limited to 5 m/s.
The max allowable pressure drop over the cooling air ducts is 30 Pa.If it is greater than this value then fan is needed at the outlet of cooling ducts .Pl consult Atlas copco.
The maximum air temp at the compressor intake is 46 degree

For GA 37VSD up to GA 90 VSD air-cooled compressors alternatives 1 & 3 the required ventilation capacity to limit temperature of the compressor room can be calculated from the following formula:

Qv = 1.06N/DT for GA workplace

Qv = (1.06N+1.3) DT work place with full feature

Qv - required ventilation capacity in m^3/s
N - Nominal motor power of compressor in kW
DT - Temp rise in compressor room



The direction of the cooling flows may never be inverted

For alternatives 2 & 4 fan capacity should match the compressor fan capacity at a pressure head equal to the pressure drop across the cooling ducts.
For GA37 VSD up to GA90 VSD water cooled compressors the ventilation capacity required to limit the compressor room temperature can be calculated as follows

Qv = 0.13N/dt for GA workplace compressors

Qv = (0.13N+1.3)/dt for GA workplace full feature compressors

5. The drain pipes to the drain collector must not dip into water of the drain collector. Atlas copco has oil /water separator (type OSD) to separate major parts of oil from the condensate to ensure that the condensate the requirements of environment codes.

6. Control module with modulating panel.

7. Electric cable size: -

Type	V	Hz	Approval	$I_{nom}P$ (1)	$I_{nom}F$ F (1)	Recommended wire section (2)	Recommended wire section (3)	Main fuses (A) (4)
GA 37 VSD	400	50	IEC	93	98	4 x 50 mm^2	4 x 95 mm^2 or 7 x 25 mm^2	125 (63)
GA 45 VSD	400	50	IEC	115	124	4 x 70 mm^2	4 x 120 mm^2 or 7 x 50 mm^2	160 (80)
GA 55 VSD	400	50	IEC	140	149	4 x 70 mm^2	4 x 120 mm^2 or 7 x 50 mm^2	160 (80)

Remarks :

(1): current in the supply lines at maximum load

(2): recommended wire section under standard conditions

(3): recommended wire section under worst case conditions

(4): recommended fuse value (value between () valid in case of 6 fuses for parallel supply cables)

Fuse specifications IEC: gL/gG

8. Provision for energy recovery system

9. Filter type DD for general purposes. The filter traps solid particles down to 1 micron with a max. Of oil carry over 0.5mg/m^3.A high efficiency filter type PD may be installed down stream of a DD filter. This filter traps solid particles down to 0.01 micron with a max of oil carry over of 0.01 mg/m^3.

If oil vapours & odours are undesirable a QD type filter should be installed down stream of PD filter.
On GA compressors without dryer & full feature compressors with IFD dryer, the filters for general purpose are optional.

10. Safety valve

11. By –pass system to by –pass the dryer during service operations.

12. On water-cooled compressors water flow & pressure tobe adjusted depending upon local conditions.
Cooling water quality & water pressure pl refer instruction book or consult Atlas copco.

13. Setting of overload relay fan motor:-

		GA 37 VSD	GA 45 VSD	GA 55 VSD
Frequency (Hz)	Voltage (V)	Fan motor circuit breaker Q15 (A)	Fan motor circuit breaker Q15 (A)	Fan motor circuit breaker Q15 (A)
IEC				
50	400	3.0	3.0	5.0

Service Interventions:-

Preventive maintenance schedule

General

Period	Operation
Daily	Check oil level.
"	Check readings on display.
"	Check air filter service indicator.
"	On water-cooled units: Check for cooling water flow.
3-monthly	Check coolers, clean if necessary.
"	Check condenser of dryer and clean if necessary.
"	Remove air filter element. Clean using an air jet and inspect. More frequently when operating in a dusty atmosphere. Replace damaged or heavily contaminated elements.
"	Check that condensate is discharged when pressing the test button on top of the electronic water drain(s).

Running hours	Operation
4000 (1)	If Atlas Copco Roto-Foodgrade Fluid is used, change oil and oil filter. If Atlas Copco Roto-Inject Fluid is used, change oil and oil filter. **(If air/oil temperature is above 100 °C, consult Atlas Copco for oil change.)**
4000 (1)	Replace the air filter element. **(More frequently for dusty environment.)** Replace the filter element of the electric cabinet (where applicable). Clean coolers. Check pressure and temperature readings. Carry out a LED/display test. Check for leakages. Open the manual drain valve (Dm) to clean the filter of the automatic drain. See sectionCondensate system Test temperature shut-down function.
4000 (1)	On water-cooled units: Check for possible water leakage.
8000 (2)	If Atlas Copco Roto-Xtend Duty Fluid is used, change oil and oil filter. Have the oil separator element replaced.

(1): or yearly, whichever comes first

(2): or every 2 years, whichever comes first

Service Kits:-

1.2901 0522 00 - Roto inject oil 20 l
2.2901 0045 01 - Roto inject oil 210 l
3.2901 0245 01- Roto inject oil 5 l

4.2901 1947 00 - Air oil filter kit for GA37, 45 VSD
5.2901 1948 00 - Air oil filter kit for GA55VSD
5.2901 1626 00 - oil separator kit

Insurance spares:-

1.2901 1951 00-Motor overhaul kit
2.2901 1453 00- Minimum pressure valve kit
3. 2901 1617 00-Thermostatic valve kit 60 degree
4. 2901 1618 00-Thermostatic valve kit 75 degree (Tropical)
5.1089 0580 03 –Sol valve
6.1089 0575 54-pressure transducer
7.1900 0710 12-Electronikon ELII
8.1089 0574 55-temp sensor
9.0574 9918 23-Hose assembly
10.1622 3155 00-Hose assembly
11.2901 0217 02-Kit oil stop & check valve
12.2901 0750 00-WSD kit
13.1622 3154 00-Del hose
14.0574 9914 19-Flexible
15.1089 0574 49-temp sensor for GA water-cooled
16.0574 9917 06-Flexible
17.1900 5200 11-Electronikon Regulator Graphic MKV
18.0574 9918 18-oil out hose
19.0574 9914 18-Hose assembly

List of Activities

Equipment: GA37-55VSD				
Visit Type	Visit I	Visit A	Visit B	Visit D
Visit Interval		2000	8000	24000
Check service readings (converter)	x	x	x	x
Check electrical components	x	x	x	x
Check Elektronikon functions	x	x	x	x
Check for air- water- & oil leakage	x	x	x	x
Check safety valve+switches	x	x	x	x
Check/clean condensate drain(s)	x	x	x	x
Check/clean scavenge line				
Check oil- & aftercooler,clean extern	x	x	x	x
Check temperatures and pressures.	x	x	x	x
Check oil level	x	x	x	x
Check condition of air intake chamber	x	x	x	x
Check condition of cooling fan assy (AC)	x	x	x	x
Check/clean cooling fins	x	x	x	x
Replace cubicle filters		x	x	x
Clean converter prints with air jet				
Check operation seq.(multi-compr sites)	x	x	x	x
Check LAT (FF units)	x	x	x	x
Check rotation of cooling fan (FF units)				
Clean condenser (FF units)	x	x	x	x
Change compressor oil filter		x	x	x
Change air filter element(s)(More frequently for dusty condition)		x	x	x
Change compressor oil (ZR/ZT: 2y) (Roto inject fluid)		x	x	x
Grease motor bearings		x	x	x
Change oil separator element			x	x
Overhaul WSD(1 for Pack/2 WSDs for FF)			x	x
Overhaul oil injection valve			x	x
Change thermostatic valve			x	x
Overhaul min. press valve			x	x
Change coupling element(s)				x
Change or overhaul element				x
Overhaul main drive motor				x
Change radial cooling fan assembly				

The activities are recommended activities only. Some activities may change depending on local conditions and utilisation.

Note:-If Roto Xtend duty fluid is used then oil change interval is 6000 hrs for air oil temp more than 106 degree.

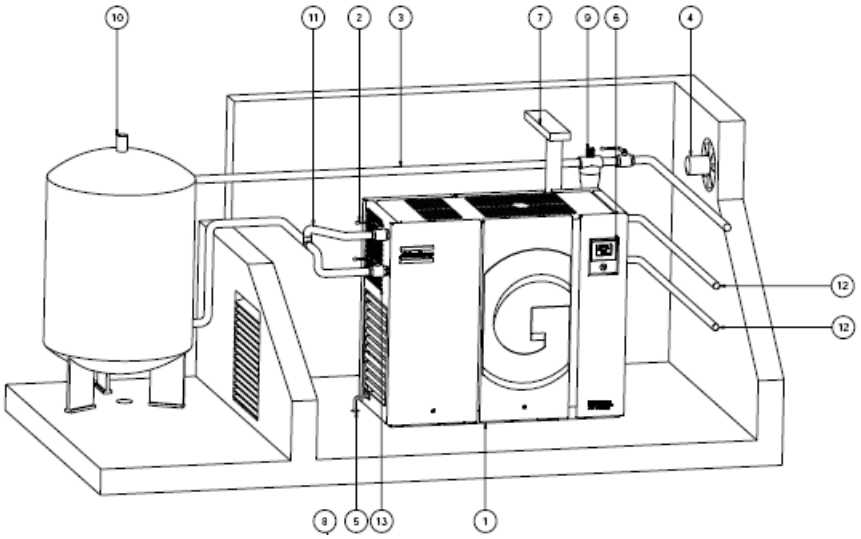
Parts included at each visit
GA37,45VSD (GA37-55VSD)

	RHRS		RHRS		RHRS	
	4000	Visit A	8000	Visit B	24000	Visit D
1	2901194700	filter kit	2901162800	8000Hrs Maint	2901162800	8000Hrs Maint Kit Ga30-45+
2			2901161600	thermostatic	2901161600	thermostatic valve kit
3						
4					2901063320	Kit Set Of Wearing Parts
5					2901195100	Motor Overhaul Ga 30-45+
6					2901057000	Elmt Mounting Kit
7						C-111 Service Element With Drive
8						

Parts included at each visit
GA55VSD(GA37-55VSD)

	RHRS		RHRS		RHRS	
	4000	Visit A	8000	Visit B	24000	Visit D
1	2901194800	filter kit	2901162900	8000Hrs	2901162900	8000Hrs Maint Kit Ga55-75
2			2901161600	thermostatic	2901161600	thermostatic valve kit
3						
4					2901063320	Kit Set Of Wearing Parts
5					2901195100	Motor Overhaul
6					2901057000	Elmt Mounting Kit
7						C-111 Service Element With Drive Ga55-
8						

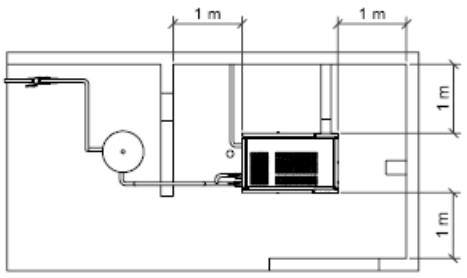
9. GA 55+90:-



Steps:-

1. Layout: - Install the compressor on a solid level floor suitable for taking its weight.

The minimum free area tobe reserved for the compressor installation is as shown in below fig.



Minimum free area to be reserved for the compressor installation

2. Outlet valve: - the position of outlet valve is as shown in fig1.

3. Delivery pipe size: - Recommended Del pipe size can be calculated by following formula considering the pressure drop as 0.1bar (1.5 psi)

DP = (L * 450 * QC^1.85)/ (D^5*P)
Where DP-recommended pressure drop
L- Length of Del pipe in m
D -Dia of delivery pipe in mm
P -absolute pressure at the compressor outlet
QC -Free air delivery of compressor in L/S

Minimum pipe size should be more /equal to outlet valve connection. In this case it is 21/2 inches.

4. Ventilation: - The inlet grids & ventilation fan should be installed in such way that any recirculation of cooling air should be avoided.

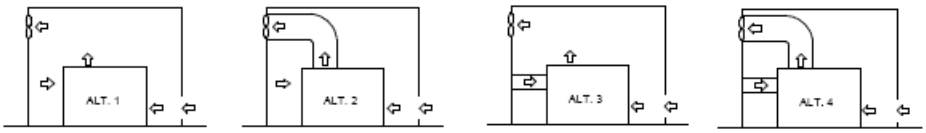
The air velocity to the grid must be limited to 5 m/s.
The max allowable pressure drop over the cooling air ducts is 30 Pa.If it is greater than this value then fan is needed at the outlet of cooling ducts .Pl consult Atlas copco.
The maximum air temp at the compressor intake is 46 degree

For GA 37+ up to GA 90 air-cooled compressors alternatives 1 & 3 the required ventilation capacity to limit temperature of the compressor room can be calculated from the following formula:

Qv = 1.06N/DT for GA workplace

Qv = (1.06N+1.3) DT work place with full feature

Qv - required ventilation capacity in m^3/s
N - Nominal motor power of compressor in kW
DT - Temp rise in compressor room



The direction of the cooling flows may never be inverted

For alternatives 2 & 4 fan capacity should match the compressor fan capacity at a pressure head equal to the pressure drop across the cooling ducts.
For GA37 + up to GA90 water cooled compressors the ventilation capacity required to limit the compressor room temperature can be calculated as follows

Qv = 0.13N/dt for GA workplace compressors

Qv = (0.13N+1.3)/dt for GA workplace full feature compressors

5. The drain pipes to the drain collector must not dip into water of the drain collector. Atlas copco has oil /water separator (type OSD) to separate major parts of oil from the condensate to ensure that the condensate the requirements of environment codes.

6. Control module with modulating panel.

7. Electric cable size: -

		GA 55+ Workplace	GA 55+ Workplace Full-Feature
Frequency Hz	Voltage (V)	Cable size	Cable size
50	415	4 x 70	4 x 70

		GA 75+ Workplace	GA 75+ Workplace Full-Feature
Frequency Hz	Voltage(V)	Cable size	Cable size
50	415	7 x 35	7 x 35

		GA 90 Workplace	GA 90 Workplace Full- Feature
Frequency Hz	Voltage(V)	Cable size	Cable size
50	415	7x35	7x50

8. Provision for energy recovery system

9. Filter type DD for general purposes. The filter traps solid particles down to 1 micron with a max. Of oil carry over 0.5mg/m^3.A high efficiency filter type PD may be installed down

stream of a DD filter. This filter traps solid particles down to 0.01 micron with a max of oil carry over of 0.01 mg/m^3.
If oil vapours & odours are undesirable a QD type filter should be installed down stream of PD filter.
On GA compressors without dryer & full feature compressors with IFD dryer, the filters for general purpose are optional.
10. Safety valve

11. By –pass system to by –pass the dryer during service operations.

12. On water-cooled compressors water flow & pressure tobe adjusted depending upon local conditions.
Cooling water quality & water pressure pl refer instruction book or consult Atlas copco.

13. Setting of overload relay fan motor:-

Circuit breaker

		GA 55+ andGA 75+	GA 90
Frequency Hz	**Voltage (V)**	**Fan motor circuit breaker Q15(A)**	Fan motor circuit breaker Q15(A)
50	415	5.0	7.7

		GA 55+	GA 55+	GA 75+	GA 75+	GA 90	GA 90
Frequency (Hz)	**Voltage (V)**	**Overload relay F 21 (A)**	**Main fuses, compressor supply (A)**	**Overload relay F 21 (A)**	**Main fuses, compressor supply (A)**	**Overload relay F 21 (A)**	**Main fuses, compressor supply (A)**
IEC	Star - delta		Gl/gG		Gl/gG		Gl/gG
50	415	71	See table below and Electric cable size	97	See table below and Electric cable size	114	See table below and Electric cable size

Service Interventions:-

Preventive maintenance schedule

General

Period	Operation
Daily	Check oil level.
"	Check readings on display.
"	Check air filter service indicator.
"	On water-cooled units: Check for cooling water flow.
3-monthly	Check coolers, clean if necessary.
"	Check condenser of dryer and clean if necessary.
"	Remove air filter element. Clean using an air jet and inspect. More frequently when operating in a dusty atmosphere. Replace damaged or heavily contaminated elements.
"	Check that condensate is discharged when pressing the test button on top of the electronic water drain(s).

Running hours	Operation
4000 (1)	If Atlas Copco Roto-Foodgrade Fluid is used, change oil and oil filter. If Atlas Copco Roto-Inject Fluid is used, change oil and oil filter. **(If air/oil temperature is above 100 °C, consult Atlas Copco for oil change.)**
4000 (1)	Replace the air filter element. **(More frequently for dusty environment.)** Replace the filter element of the electric cabinet (where applicable). Clean coolers. Check pressure and temperature readings. Carry out a LED/display test. Check for leakages. Open the manual drain valve (Dm) to clean the filter of the automatic drain. See sectionCondensate system Test temperature shut-down function.
4000 (1)	On water-cooled units: Check for possible water leakage.
8000 (2)	If Atlas Copco Roto-Xtend Duty Fluid is used, change oil and oil filter. Have the oil separator element replaced.

(1): or yearly, whichever comes first

(2): or every 2 years, whichever comes first

Service Kits:-

1.2901 0522 00 - Roto inject oil 20 l

2.2901 0045 01 - Roto inject oil 210 l

3.2901 0245 01- Roto inject oil 5 l
4.2901 1944 00 - Air oil filter kit
5.2901 0566 22 - oil separator kit

Insurance spares:-

1.2901 1910 01-Motor overhaul kit
2.2901 1453 00- Minimum pressure valve kit
3. 2901 1464 00-Thermostatic valve kit 60 degree
4. 2901 1455 00-Thermostatic valve kit 75 degree (Tropical)
5.1089 0621 20 -Sol valve 230 volt
6.1089 0575 54-pressure transducer
7.1900 0710 12-Electronikon ELII
8.1089 0574 55-temp sensor
9.0575 1216 56-Hose assembly
10.0574 8063 07-Hose assembly
11.2901 1084 00-Kit oil stop & check valve
12.2901 0845 00-WSD kit only for water-cooled
13.1622 3619 00-Del hose
14.0574 9914 17-Hose assembly
15.1089 0574 49-temp sensor for GA water-cooled
16.0574 9918 14-Hose assembly
17.1900 5200 11-Electronikon Regulator Graphic MKV
18.0574 9919 01-oil out hose
19.2901 1454 00-Thermostat valve kit 40 degree
20.1089 0702 13-sol valve 110 v with MKV
21.1089 0575 43-DP pressure transducer
22.1622 3787 00-pipe
23.2901 1463 00-unloader valve kit

List of Activities

Equipment: GA55+90				
Visit Type	Visit I	Visit A	Visit B	Visit D
Visit Interval		2000	8000	24000
Check service readings (converter)	x	x	x	x
Check electrical components	x	x	x	x
Check Elektronikon functions	x	x	x	x
Check for air- water- & oil leakage	x	x	x	x
Check safety valve+switches	x	x	x	x
Check/clean condensate drain(s)	x	x	x	x
Check/clean scavenge line				
Check oil- & aftercooler,clean extern	x	x	x	x
Check temperatures and pressures.	x	x	x	x
Check oil level	x	x	x	x
Check condition of air intake chamber	x	x	x	x
Check condition of cooling fan assy (AC)	x	x	x	x
Check/clean cooling fins	x	x	x	x
Replace cubicle filters		x	x	x
Clean converter prints with air jet				
Check operation seq.(multi-compr sites)	x	x	x	x
Check LAT (FF units)	x	x	x	x
Check rotation of cooling fan (FF units)				
Clean condenser (FF units)	x	x	x	x
Change compressor oil filter		x	x	x
Change air filter element(s) (More frequently for dusty environment)		x	x	x
Change compressor oil (ZR/ZT: 2y) Roto inject fluid		x	x	x
Grease motor bearings		x	x	x
Change oil separator element			x	x
Overhaul WSD(1 for Pack/2 WSDs for FF)			x	x
Overhaul oil injection valve			x	x
Change thermostatic valve			x	x
Overhaul min. press valve			x	x
Change coupling element(s)				x
Change or overhaul element				x
Overhaul main drive motor				x
Change radial cooling fan assembly				

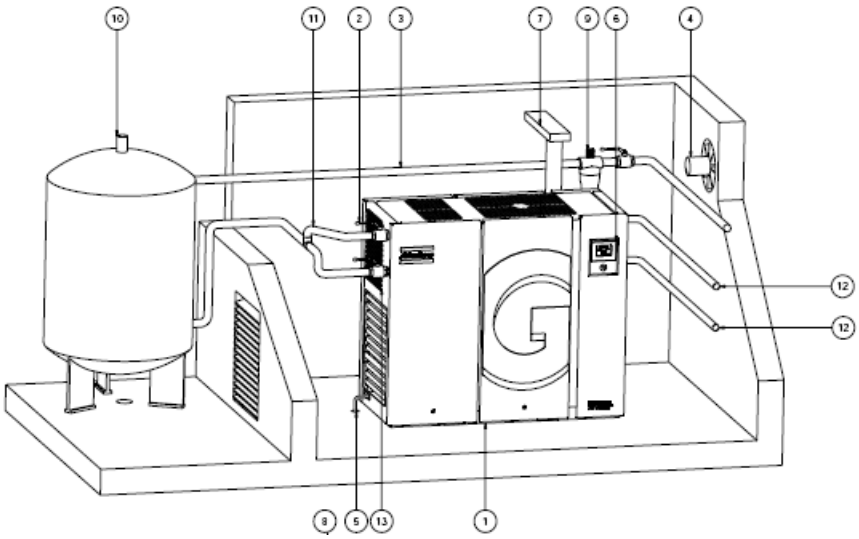
The activities are recommended activities only. Some activities may change depending on local conditions and utilisation.

Note :-If Roto Xtend duty fluid is used then oil change interval is 6000 hrs for air oil temp more than 106 degree.

Parts included at each visit
GA55+90

	RHRS		RHRS		RHRS	
	2000	Visit A	8000	Visit B	24000	Visit D
1	2901194400	filter kit	2901145380	Prev	2901145380	Prev Maintenance Kit 8000H
2			2901145400	Thermostat Kit	2901145400	Thermostat Kit 40°C
3			2901084500	Waterseparator	2901084500	Waterseparator Kit
4					2901063320	Kit Set Of Wearing Parts
5					2901146000	Elmt Mounting Kit
6					2901191001	Motor Bearing & Shaft Seal Kit
7						C-146 Service Element +Drive
8						

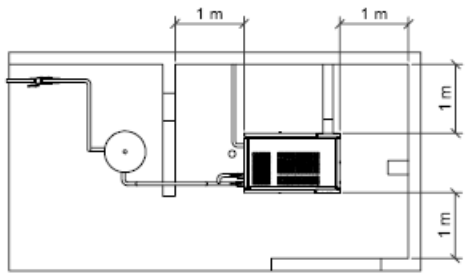
10. GA 75-90 VSD:-



Steps:-

1. Layout: - Install the compressor on a solid level floor suitable for taking its weight.

The minimum free area tobe reserved for the compressor installation is as shown in below fig.



Minimum free area to be reserved for the compressor installation

2. Outlet valve: - the position of outlet valve is as shown in fig1.

3. Delivery pipe size: - Recommended Del pipe size can be calculated by following formula considering the pressure drop as 0.1bar (1.5 psi)

DP = (L * 450 * QC^1.85)/ (D^5*P)

Where DP-recommended pressure drop

L- Length of Del pipe in m

D -Dia of delivery pipe in mm

P -absolute pressure at the compressor outlet

QC -Free air delivery of compressor in L/S

Minimum pipe size should be more /equal to outlet valve connection. In this case it is 21/2 inches.

4. Ventilation: - The inlet grids & ventilation fan should be installed in such way that any recirculation of cooling air should be avoided.

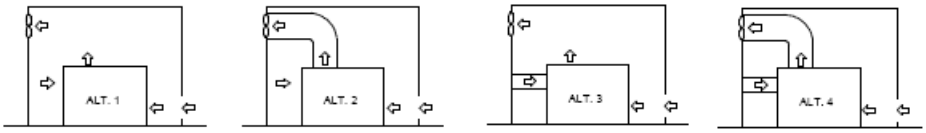
The air velocity to the grid must be limited to 5 m/s.
The max allowable pressure drop over the cooling air ducts is 30 Pa.If it is greater than this value then fan is needed at the outlet of cooling ducts .Pl consult Atlas copco.
The maximum air temp at the compressor intake is 46 degree

For GA 37VSD up to GA 90VSD air-cooled compressors alternatives 1 & 3 the required ventilation capacity to limit temperature of the compressor room can be calculated from the following formula:

Qv = 1.06N/DT for GA workplace

Qv = (1.06N+1.3) DT work place with full feature

Qv - required ventilation capacity in m^3/s
N - Nominal motor power of compressor in kW
DT - Temp rise in compressor room



The direction of the cooling flows may never be inverted

For alternatives 2 & 4 fan capacity should match the compressor fan capacity at a pressure head equal to the pressure drop across the cooling ducts.
For GA37 VSD up to GA90 VSD water cooled compressors the ventilation capacity required to limit the compressor room temperature can be calculated as follows

Qv = 0.13N/dt for GA workplace compressors

Qv = (0.13N+1.3)/dt for GA workplace full feature compressors

5. The drain pipes to the drain collector must not dip into water of the drain collector. Atlas copco has oil /water separator (type OSD) to separate major parts of oil from the condensate to ensure that the condensate the requirements of environment codes.

6. Control module with modulating panel.

7. Electric cable size: -

Type	V	Hz	Approval	$I_{nom}P$ (1)	$I_{nom}F$ F (1)	Recommended wire section (2)	Recommended wire section (3)	Main fuses (A) (4)
GA 75 VSD	400	50	IEC	143	156	4 x 95 mm^2 or 7 x 35 mm^2	7 x 70 mm^2	200 (100)
GA 90 VSD	400	50	IEC	186	200	4 x 120 mm^2 or 7 x 50 mm^2	7 x 95 mm^2	250 (125)

8. Provision for energy recovery system

9. Filter type DD for general purposes. The filter traps solid particles down to 1 micron with a max. Of oil carry over 0.5mg/m^3.A high efficiency filter type PD may be installed down stream of a DD filter. This filter traps solid particles down to 0.01 micron with a max of oil carry over of 0.01 mg/m^3.

If oil vapours & odours are undesirable a QD type filter should be installed down stream of PD filter.
On GA compressors without dryer & full feature compressors with IFD dryer, the filters for general purpose are optional.

10. Safety valve

11. By –pass system to by –pass the dryer during service operations.

12. On water-cooled compressors water flow & pressure tobe adjusted depending upon local conditions.
Cooling water quality & water pressure pl refer instruction book or consult Atlas copco.

13. Setting of overload relay fan motor:-

		GA 75 VSD	GA 90 VSD
Frequency (Hz)	Voltage (V)	Fan motor circuit breaker Q15 (A)	Fan motor circuit breaker Q15 (A)
IEC			
50	400	5	7.7

Service Interventions:-

Preventive maintenance schedule

General

Period	Operation
Daily	Check oil level.
"	Check readings on display.
"	Check air filter service indicator.
"	On water-cooled units: Check for cooling water flow.
3-monthly	Check coolers, clean if necessary.
"	Check condenser of dryer and clean if necessary.
"	Remove air filter element. Clean using an air jet and inspect. More frequently when operating in a dusty atmosphere. Replace damaged or heavily contaminated elements.
"	Check that condensate is discharged when pressing the test button on top of the electronic water drain(s).

Running hours	Operation
4000 (1)	If Atlas Copco Roto-Foodgrade Fluid is used, change oil and oil filter. If Atlas Copco Roto-Inject Fluid is used, change oil and oil filter. **(If air/oil temperature is above 100 °C, consult Atlas Copco for oil change.)**
4000 (1)	Replace the air filter element. **(More frequently for dusty environment.)** Replace the filter element of the electric cabinet (where applicable). Clean coolers. Check pressure and temperature readings. Carry out a LED/display test. Check for leakages. Open the manual drain valve (Dm) to clean the filter of the automatic drain. See sectionCondensate system Test temperature shut-down function.
4000 (1)	On water-cooled units: Check for possible water leakage.
8000 (2)	If Atlas Copco Roto-Xtend Duty Fluid is used, change oil and oil filter. Have the oil separator element replaced.

(1): or yearly, whichever comes first

(2): or every 2 years, whichever comes first

Service Kits:-

1.2901 0522 00 - Roto inject oil 20 l
2.2901 0045 01 - Roto inject oil 210 l
3.2901 0245 01- Roto inject oil 5 l
4.2901 1944 00 - Air oil filter kit
5.2901 0566 22 - oil separator kit

Insurance spares:-

1.2901 1910 02-Motor overhaul kit
2.2901 1453 00- Minimum pressure valve kit
3. 2901 1464 00-Thermostatic valve kit 60 degree
4. 2901 1455 00-Thermostatic valve kit 75 degree (Tropical)
5.1089 0580 03 -Sol valve
6.1089 0575 54-pressure transducer
7.1900 0710 12-Electronikon ELII
8.1089 0574 55-temp sensor
9.0575 1216 56-Hose assembly
10.0574 8063 07-Hose assembly
11.2901 1084 00-Kit oil stop & check valve
12.2901 0845 00-WSD kit only for water-cooled
13.1622 3619 00-Del hose
14.0574 9914 17-Hose assembly
15.1089 0574 49-temp sensor for GA water-cooled
16.0574 9918 14-Hose assembly
17.1900 5200 11-Electronikon Regulator Graphic MKV
18.0574 9919 01-oil out hose
19.1089 0575 43-DP pressure transducer
20.1622 3787 00-pipe
21.2901 0302 00-Inlet valve kit VSD

List of Activities

Equipment: GA75-90 VSD				
Visit Type	Visit I	Visit A	Visit B	Visit D
Visit Interval		2000	8000	24000
Check service readings (converter)	x	x	x	x
Check electrical components	x	x	x	x
Check Elektronikon functions	x	x	x	x
Check for air- water- & oil leakage	x	x	x	x
Check safety valve+switches	x	x	x	x
Check/clean condensate drain(s)	x	x	x	x
Check/clean scavenge line				
Check oil- & aftercooler,clean extern	x	x	x	x
Check temperatures and pressures.	x	x	x	x
Check oil level	x	x	x	x
Check condition of air intake chamber	x	x	x	x
Check condition of cooling fan assy (AC)	x	x	x	x
Check/clean cooling fins	x	x	x	x
Replace cubicle filters		x	x	x
Clean converter prints with air jet				
Check operation seq.(multi-compr sites)	x	x	x	x
Check LAT (FF units)	x	x	x	x
Check rotation of cooling fan (FF units)				
Clean condenser (FF units)	x	x	x	x
Change compressor oil filter		x	x	x
Change air filter element(s)(More frequently for dusty environment)		x	x	x
Change compressor oil (ZR/ZT: 2y) Roto inject oil		x	x	x
Grease motor bearings		x	x	x
Change oil separator element			x	x
Overhaul WSD(1 for Pack/2 WSDs for FF)			x	x
Overhaul oil injection valve			x	x
Change thermostatic valve			x	x
Overhaul min. press valve			x	x
Change coupling element(s)				x
Change or overhaul element				x
Overhaul main drive motor				x
Change radial cooling fan assembly				

The activities are recommended activities only. Some activities may change depending on local conditions and utilisation.

Note :If Roto Xtend duty fluid is used then oil change interval is 6000 hrs for air oil temp more than 106 degree.

Parts included at each visit
GA75-90 VSD

	RHRS		RHRS		RHRS	
	2000	Visit A	8000	Visit B	24000	Visit D
1	2901194400	filter kit	2901145380	Prev	2901145380	Prev Maintenance Kit 8000H
2			2901146400	Thermostat Kit	2901146400	Thermostat Kit 40°C
3			2901084500	Waterseparator	2901084500	Waterseparator Kit
4					2901063320	Kit Set Of Wearing Parts
5					2901146000	Elmt Mounting Kit
6					2901191002	Motor Bearing & Shaft Seal Kit
7						C-146 Service Element +Drive
8						