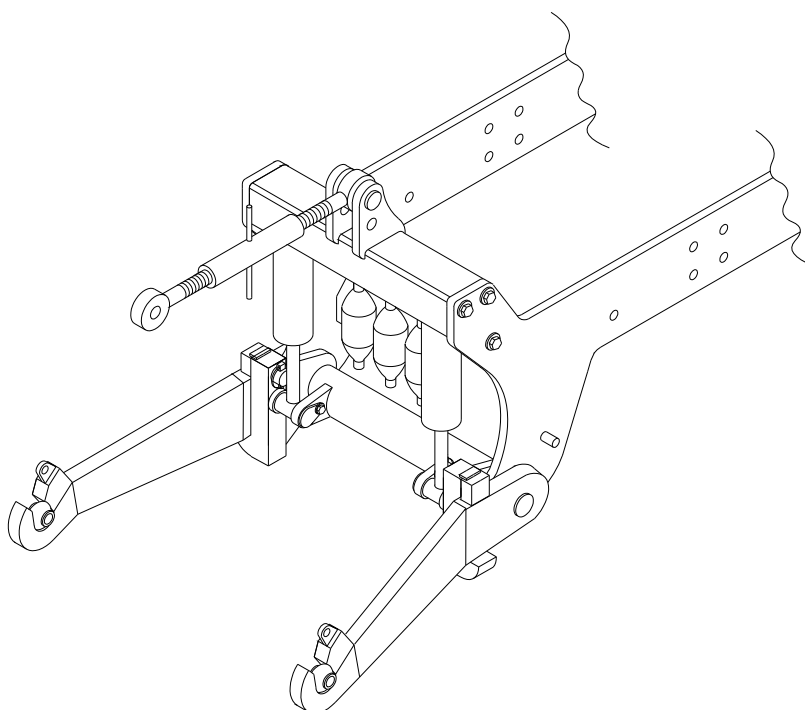




Assembly Instruction

Operating Instruction

Spare Parts List



Front-Lift
Type 15.01

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DS/EN 45 014

Declaration of Conformity

HE-VA Aps.
N.A. Christensensvej 11
DK-7900 Nykøbing Mors

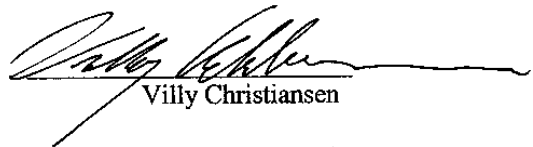
declares under our sole responsibility that the product

HE-VA Integreret front-lift 1500 kg for:

Type 15.01 E - E ST - D - D ST - D AF ST

To which this declaration relates is in conformity with the provisions of 98/37/EF
(Machinery) Directive

Nykøbing Mors, 01.11. 2001


Villy Christiansen

1. Delivery Check

Both on delivery to the distributor/supplier and to the customer, the Front-Lift shall be checked on any damages.

Check the hydraulic hoses on cuts and squeezing damages. Check that the other hydraulic components have not been damaged in transit.

2. Maschine Description

2.1. Application

The Front-Lift is for mounting at the front of tractors. The Front-Lift is developed for a variety of various tractor models and may be equipped with short or long side members according to the tractor design. Absorbers, spring suspension and double-acting hydraulics can be fitted as accessories. In the Front-Lift, different tools can be fitted: roller, land-packer, harrow, sweeper, snow plough, etc. With the Front-Lift, the tools can be lifted and lowered and put in the required working position. When working with swinging land-packers, etc., causing considerable torsional stresses in the Front-Lift and the tractor, the additional support of the lift arms shall be used. HE-VA delivers such additional support as accessories. **If the tractor is exposed to such torsional stresses, HE-VA does not assume any responsibility for damages to the tractor.**

NOTICE! The front-lift must not be used for passenger transport.

2.2. Technical Specifications

Lifting capacity at an oil pressure of 210 bar.....	1.500 kg
Maximum load in coupling eyes	1.500 kg
Quick-couplings standard.....	1/2" kegletype ISO 7241
Hydraulic oil: The system is filled up	Agip OSO 32
Noise level.....	under 70 dB (A)

The Front-Lift complies with DS/ISO 8759/2, Nov. 86 as regards the dimensions, locations and lifting height (category II) of the coupling points. 825 mm between the quick-couplings/Ø28 mm pin.

3. Assembly Instruction

3.1 Generally

As standard the Front-Lift is supplied with a complete mounting kit consisting of bolts, nuts, washers, hydraulic hoses, quick-couplings and cable binders/strips.

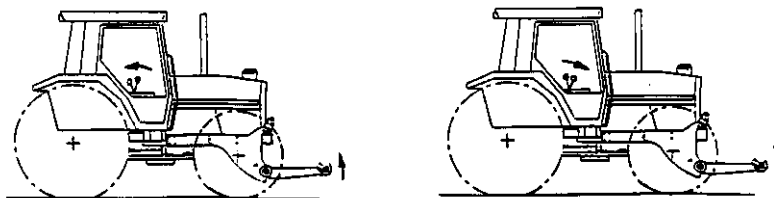
3.2 Mounting of Front-Lift

The following mounting instruction is a general instruction in the mounting of a HE-VA Front-Lift. There may be deviations in special cases, and if in doubt, please contact HE-VA.

1. Dismantle the basic weight of the tractor.
2. Dismantle the lift in one side so that the side plates can pass the front block.
3. Mount the first side plate and tighten slightly.
4. Mount the second side plate and tighten slightly.
5. Mount the top lever attachment, cylinders and lifting console.
6. Now tighten all bolts. Remember it is very important that the bolts are lubricated in order to achieve adequate tightening. See the table.
7. Fit the hydraulic hoses to the hydraulic tractor PTO. The hoses must not hang loose but shall be attached e.g. by means of strong cable binders/strips. The hoses may not touch any sharp edges, which may damage them. Pay special attention in connection with the movements of the front end.
8. With Front-Lifts with spring system the manometer with test hose shall be fitted to a place visible from the driver's seat (e.g. on the guard).
9. It may be necessary to adjust the control swing after the mounting of the Front-Lift depending on the tyre fitting and wheel distance.

NOTICE! No hydraulic hoses may be fitted in the driver's cab.

When connecting the hydraulics there shall be accordance between the movements of the hydraulic lever and the movement of the Front-Lift!



Metrical Thread	Maximum Tightening Torques in Nm		
	Grade 8.8	Grade 10.9	Grade 12.9
M12	81	114	136
M14	128	181	217
M16	197	277	333
M18	275	386	463
M20	385	541	649
M22	518	728	874
M24	665	935	1120

3.3 Mounting of Absorber, Spring Suspension and Double-acting Hydraulics

Generally

As standard the Front-Lift is equipped with single-acting hydraulics and **not** equipped with absorber, spring suspension and double-acting hydraulics. These are available as accessories. HE-VA supplies the accessories in sets, which are thus ready for mounting.

The purpose of the absorber (ST) is to absorb the hardest impacts when driving with lifted tools on uneven surfaces. With double-acting hydraulics, the weight can be transferred from the tractor onto the tool. In this connection we recommend that the Front-Lift is equipped with a spring suspension system (AF), thus achieving a shock-absorbing connection with the tractor and the tool.

3.4 Mounting of Double-acting Hydraulics

When mounting double-acting hydraulics, the filter plugs are removed from the cylinders, and fittings and hydraulic hoses are fitted. The cylinders are prepared for the double-acting system.

3.5 Mounting of Absorber (ST)

The accumulator (1 pc.) is fitted on the lifting side of the cylinders in accordance with the diagrams.

3.6 Mounting of Spring Suspension (AF)

The accumulators (2 pcs.) are fitted with 1 pc. on the lifting side and 1 pc. on the lowering side of the cylinders in accordance with the diagrams

Important !

Before the hydraulic system is dismantled, the system shall be depressurised. Be especially careful if the Front-Lift is equipped with accumulators (ST-AF).

When a dismantling of the hydraulic system is required, the Front-Lift shall be totally lowered. Any tools shall be placed on a firm support. Stop the tractor and move the control handles of the Front-Lift backwards and forwards until no more oil is flowing to back to the tractor.

Important !

After the mounting of accessories, the Front-Lift hydraulic system shall be flushed so that shavings from the used cutting ring fittings are removed and will not cause any damage to the tractor hydraulic system.

4. Operating Instructions

4.1 Lift Arms

The rest position of the lift arms may either be vertical or backwards and depends on the tractor design. For vertical rest position the supplied lock fittings shall be used and fitted when the lift is lowered. The lift arms will be locked when the lift is lifted to top position.

In rest position backwards, the arms shall be tipped manually up until they hit the limit stop, and no locking fittings shall be used.

4.2 Coupling of Tool

Fit the balls on the tool, drive the tractor into position and lift the Front-Lift so that the quick-couplings catch the tool.

4.3 Uncoupling of Tool

We recommend that you place the tool on a plane ground. The locking mechanism is released when the tool is hanging freely and then the Front-Lift is lowered.

Warning !

When the tractor motor is started, no persons may stay within the reach of the tractor, Front-Lift or mounted Tool.

4.4 Lubrication

When lubricating the Front-Lift and any mounted tool, lower the Front-Lift, brake the tractor, stop the motor and remove the ignition key!

There are 6 lubricating points on the Front-Lift, which shall be lubricated after every 25 hours of operation, and 2 lubricating points on the Front-Lift, which shall be lubricated after every 8 hours of operation, and after each cleaning in order to press any water out of the bearings.



4.5 Maintenance

Retighten all bolts after the first 10 hours of operation. Check cylinders, hoses and fittings on leaks and retighten.

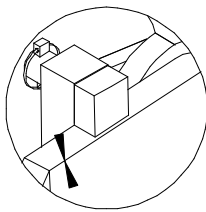
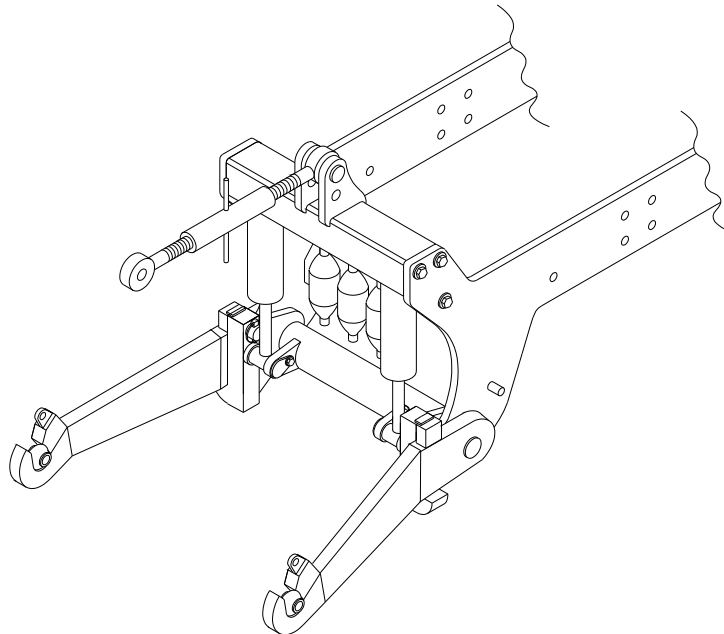
Then check that the Front-Lift bolts are tightened and that the hydraulic system does not leak oil.

In case of a standstill of some duration the Front-Lift should be lifted to protect the piston rods. If this is not possible (if a tool has been mounted), the protruding part of the piston rods should be lubricated in grease.

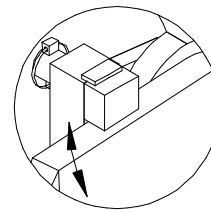
4.6 Locking Pin for Lift Arms

By fitting the locking pin in various ways, the movability of the arms can be determined. On page 8 the various possibilities are shown.

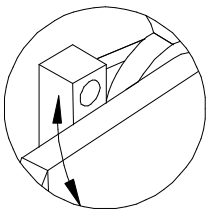
4.6 Låsenagle for liftarm



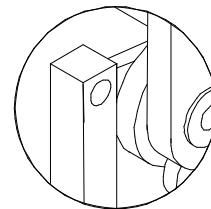
The lift arms are locked.
No mutual movability.



Turn the locking pin $\frac{1}{4}$ turn.
Then there is mutual movability, however limited.

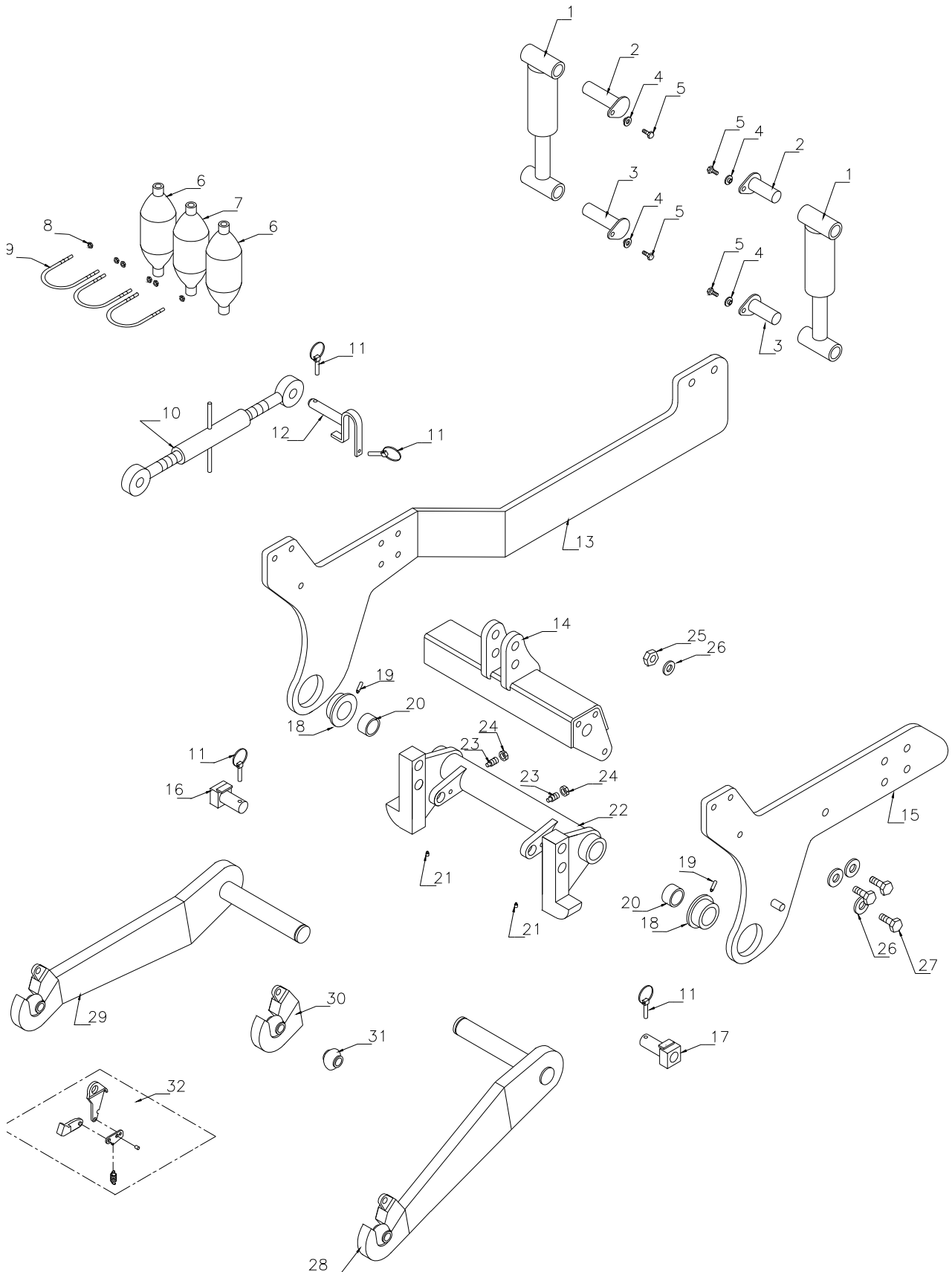


Remove the locking pin to achieve full movability. Place the pin in the bracket.
NOTICE now there is no height limit.



Put up the arms if the Front-Lift is not used for a period of some duration.

5. Spare Parts List

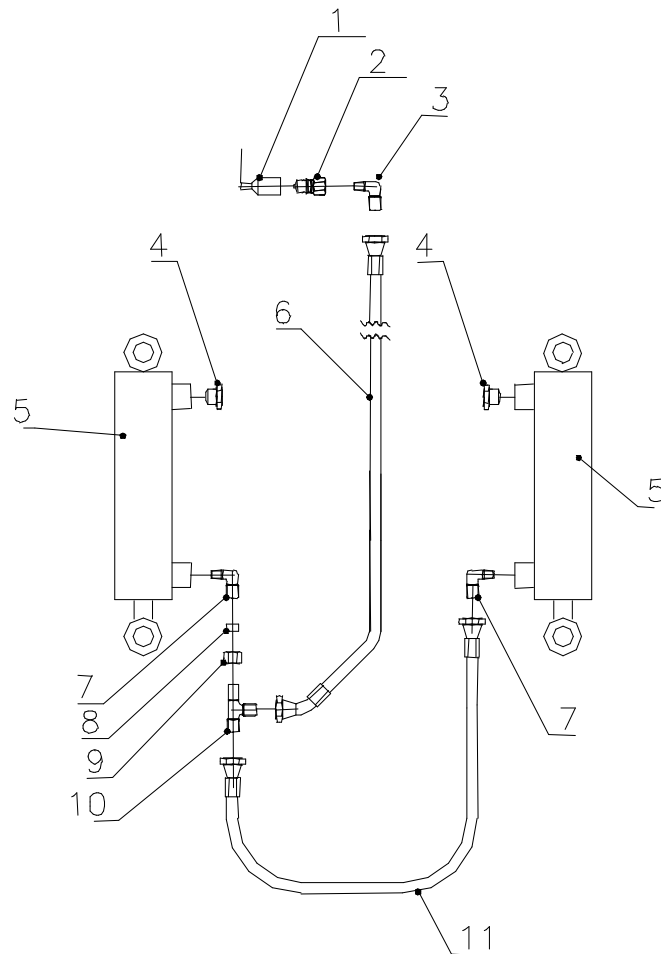


Pos.	Pc.	Art No.	Description
1	2	690200150	Cylinder 60/30 x 130mm
2	2	664004007	Cylinder pin Ø25 L=115
3	2	664004007	Cylinder pin Ø25 L=115
4	4	630532600	Lock Bush for nail
5	4	690101101	Bolt M12x25
6	2	690206403	Accumulator H700R– 15 bar
7	1	690206430	Accumulator H700R– 100 bar
8	6	690113004	Locking nut M8
9	3	690110001	U-bolt M8 x Ø92
10	1	690302009	Top Link
11	4	690134004	Pin Ø10
12	1	662000108	Top link pin
13	1	-	Side plate, Right, Complet
14	1	664001000	Top link console
15	1	-	Side plate, Left, Complet
16	1	664004004	Locking pin for liftarm, Right
17	1	664004005	Locking pin for liftarm, Left
18	2	664004003	Bearing housing
19	2	690136002	Grease zerk M6 long
20	2	664004001	Bearing PM Ø65x30 DX
21	2	690136029	Grease zerk M8x1,25
22	1	664002000	Lifting console
23	2	690104001	M16 stop screw w/stud
24	2	690112101	Lock-nut M16
25	2	690113008	M16 Self locking nut
26	8	690109011	Ø16 Plate with lock
27	6	690103133	M16x60 10.9 bolt
28	1	664003000	Liftarm, Left, Complet
29	1	664003001	Liftarm, Right, Complet
30	-	690106015	Automatic hook Kat. 2S
31	2	690134005	Linkball Kat. 2
32	-	690106012	Repair kit Kat. 2S

6. Hydraulic diagram

6.1 Single acting hydraulic

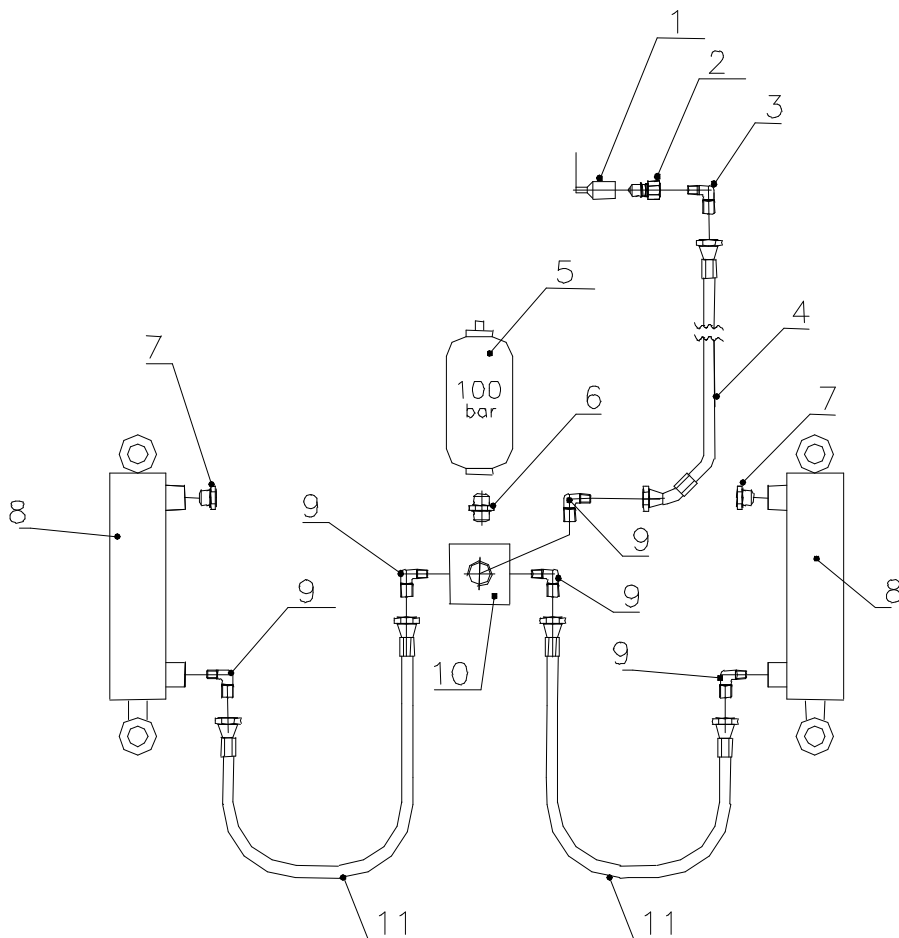
Pos.	Pc.	Art No.	Description
1	1	690201001	Dust cap C51
2	1	690203001	Quick couplung, male E402
3	1	690203107	Angle fitting, VA12LK 1/2"
4	2	690206001	Filterplug, F38, 3/8"
5	2	690200150	Cylinder 60/30 x 130mm
6	1	690201310	Hydraulic hose 5500 mm 3/8" st/45
7	1	690203106	Angle fitting VA12LK 3/8"
8	1	690203110	Cutting ring Ø12 mm
9	1	690203111	Union nut Ø12 mm
10	1	690203017	Angle fitting SL12L, uden DM
11	1	690201207	Hydraulic hose 400 mm 3/8" st/st



6. Hydraulic diagram

6.2 Single acting hydraulic with absorber

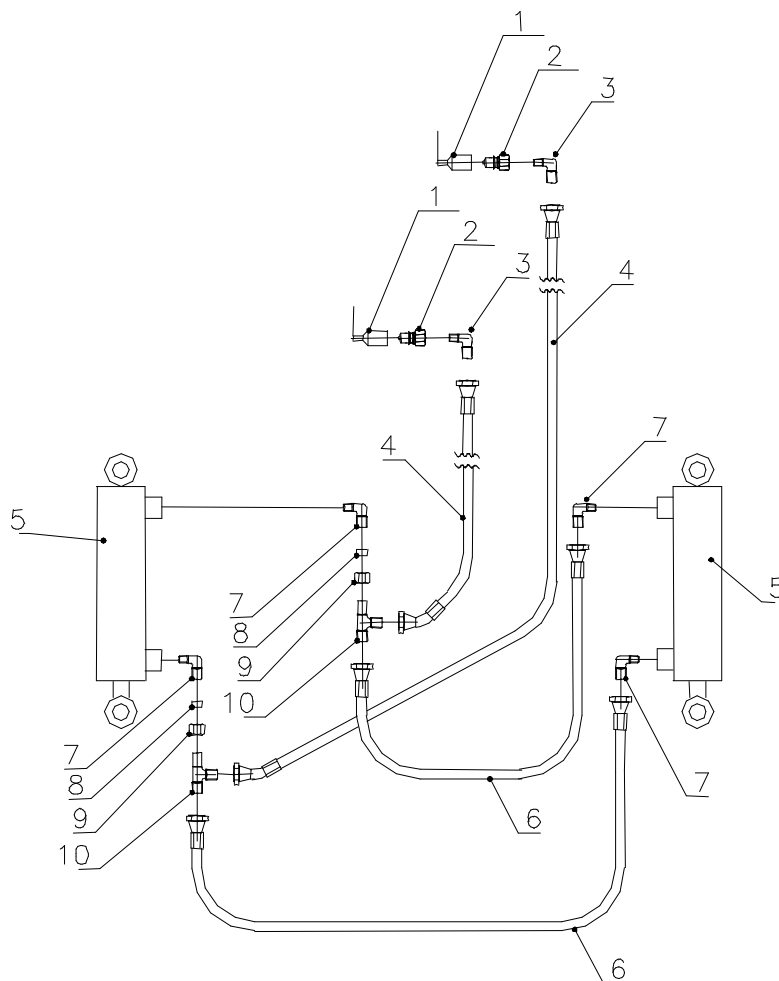
Pos.	Pc.	Art No.	Description
1	1	690201001	Dust cap C51
2	1	690203001	Quick couplung, male E402
3	1	690203107	Angle fitting, VA12LK 1/2'
4	1	690201310	Hydraulic hose, 5500 mm 3/8' st/45
5	1	690206435	Accumulator HO700R-100 bar
6	1	690203102	Straight fitting GA12LK 3/8'
7	2	690210001	Filterplug, F38, 3/8"
8	2	690200150	Cylinder 60/30 x 130mm
9	5	690203106	Angle fitting VA12LK 3/8' uden DM
10	1	660501400	Three square fitting
11	2	690201219	Hydraulic hose 350 mm 3/8' st/st



6. Hydraulic diagram

6.3 Double acting hydraulic

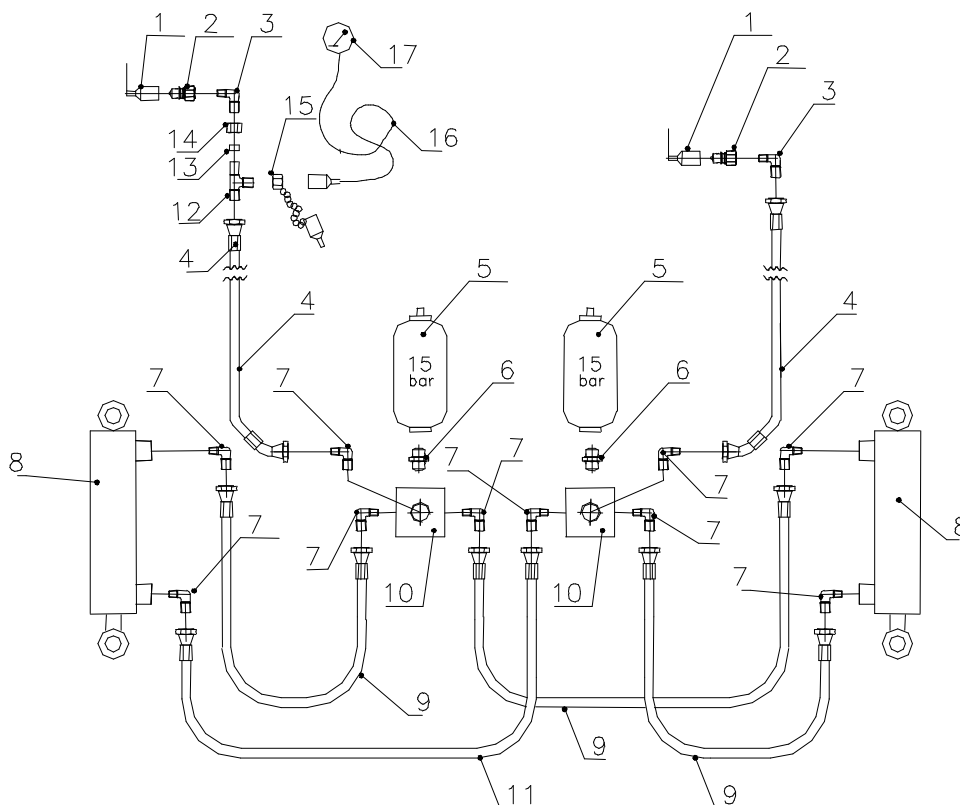
Pos.	Pc.	Art No.	Description
1	2	690201001	Dust cap C51
2	2	690203001	Quick couplung, male E402
3	2	690203107	Angle fitting, VA12LK 1/2"
4	2	690201310	Hydraulic hose, 5500 mm 3/8" st/45
5	2	690200150	Cylinder 60/30 x 130mm
6	2	690201207	Hydraulic hose, 400 mm 3/8" st/45
7	4	690203106	Angle fitting, VA12LK 3/8"
8	2	690203110	Cutting ring Ø12 mm
9	2	690203111	Union nut Ø12 mm
10	2	690203017	Angle fitting SL12L, without DM



6. Hydraulic diagram

6.4 Double acting hydraulic with spring suspension

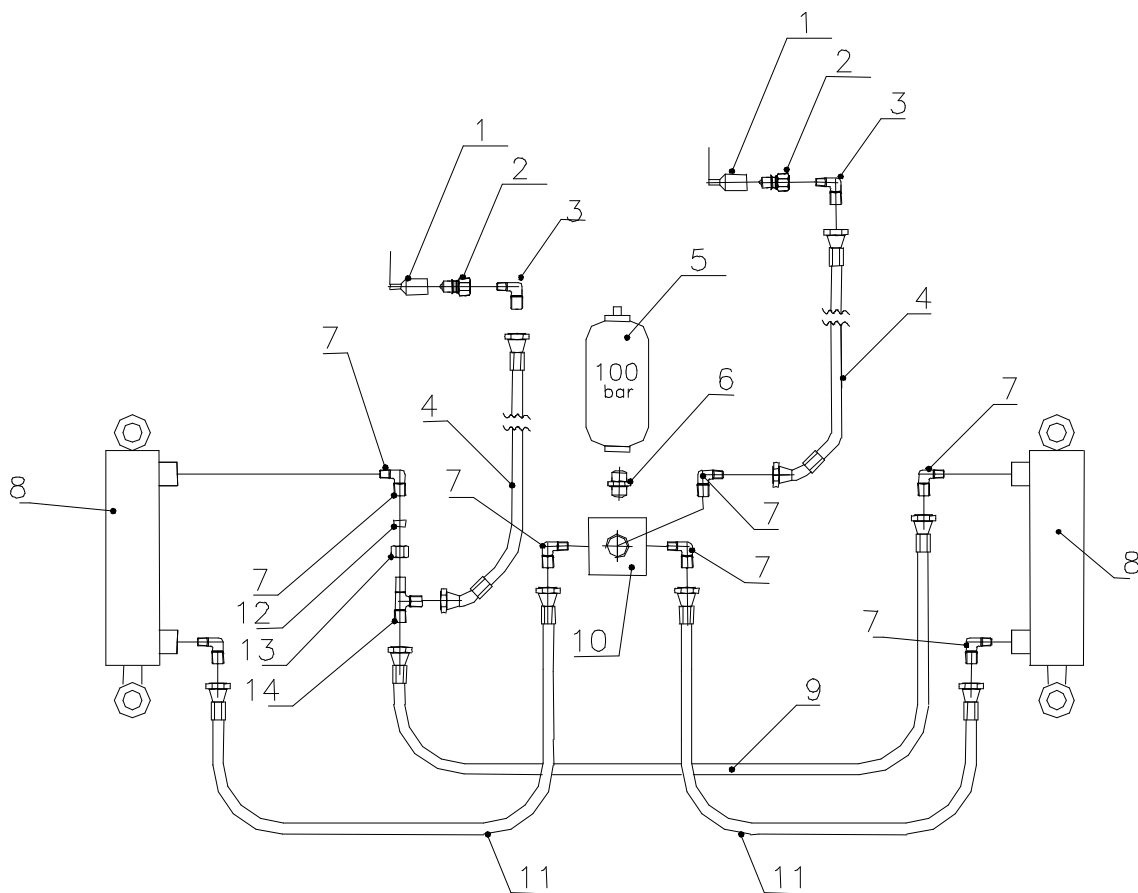
Pos.	Pc.	Art No.	Description
1	2	690201001	Dust cap C51
2	2	690203001	Quick couplung, male E402
3	2	690203107	Angle fitting, VA12LK 1/2'
4	2	690201310	Hydraulic hose, 5500 mm 3/8' st/45
5	2	690206403	Accumulator HO700R-15 bar
6	2	690203102	Straight fitting GA12LK 3/8'
7	10	690203106	Angle fitting, VA12LK 3/8', without DM
8	2	690200150	Cylinder 60/30 x 130mm
9	3	690201223	Hydraulic hose 500 mm 3/8' st/st
10	2	660501400	Three square fitting
11	1	690201213	Hydraulic hose 300 mm 3/8' st/st
12	1	690203017	Angle fitting SL12L, without DM
13	1	690203110	Cutting ring Ø12 mm
14	1	690203111	Union nut Ø12 mm
15	1	690203007	Test nipple for pressure gauge
16	1	690203008	Test hose for pressure gauge
17	1	690206802	Pressure gauge G63-D250B



6. Hydraulic diagram

6.5 Double acting hydraulic with absorber

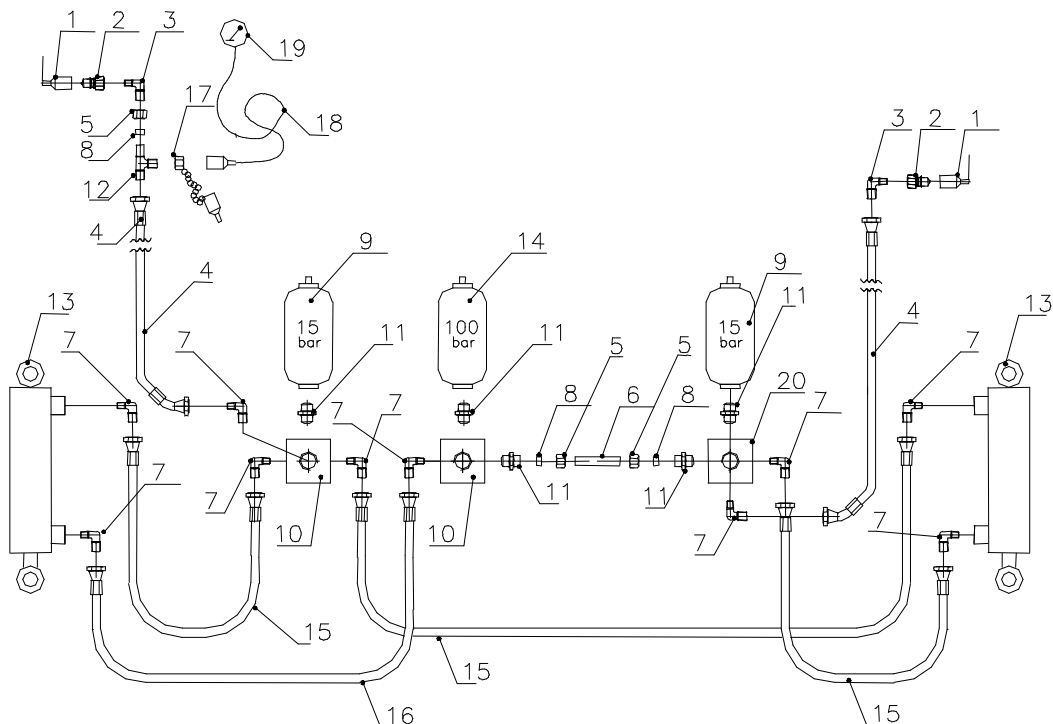
Pos.	Pc.	Art No.	Description
1	2	690201001	Dust cap C51
2	2	690203001	Quick couplung, male E402
3	2	690203107	Angle fitting, VA12LK 1/2'
4	2	690201310	Hydraulic hose, 5500 mm 3/8' st/45
5	1	690206435	Accumulator HO700R-100 bar
6	1	690203102	Straight fitting GA12LK 3/8'
7	7	690203106	Angle fitting, VA12LK 3/8', without DM
8	2	690200150	Cylinder 60/30 x 130mm
9	2	690201207	Hydraulic hose 400 mm 3/8' st/st
10	1	660501400	Three square fitting
11	2	690201219	Hydraulic hose 350 mm 3/8' st/st
12	1	690203110	Cutting ring Ø12 mm
13	1	690203111	Union nut Ø12 mm
14	1	690203017	Angle fitting SL12L, without DM



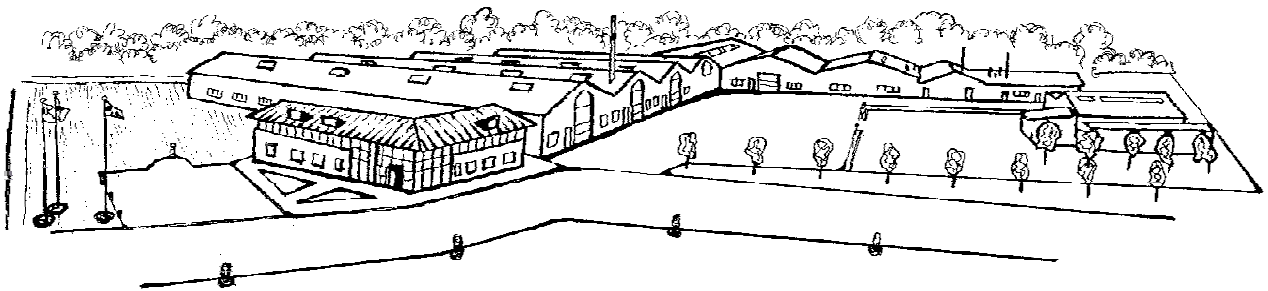
6. Hydraulic diagram

6.6 Double acting hydraulic with absorber and spring suspension

Pos.	Pc.	Art No.	Description
1	2	690201001	Dust cap C51
2	2	690203001	Quick couplung, male E402
3	2	690203107	Angle fitting, VA12LK 1/2'
4	2	690201310	Hydraulic hose, 5500 mm 3/8' st/45
5	3	690203111	Union nut Ø12 mm
6	1	662000801	Hydraulikrør ø12 l= 35 mm
7	10	690203106	Angle fitting, VA12LK 3/8'
8	3	690203110	Cutting ring Ø12 mm
9	2	690206403	Accumulator HO700R-15 bar
10	2	660501300	Three square fitting
11	5	690203102	Straight fitting GA12LK 3/8'
12	1	690203017	Angle fitting,SL12L
13	2	690200150	Cylinder 60/30 x 130mm
14	1	690206435	Accumulator HO700R-100 bar
15	3	690201223	Hydraulic hose 500 mm 3/8' st/st
16	1	690201219	Hydraulic hose 350 mm 3/8' st/st
17	1	690203007	Test nipple for pressure gauge
18	1	690203008	Test hose for pressure gauge
19	1	690206802	Pressure gauge G63-D250B
20	1	660501400	Four square fitting



7. Notes



We reserve the right to make design modifications without previous notice.