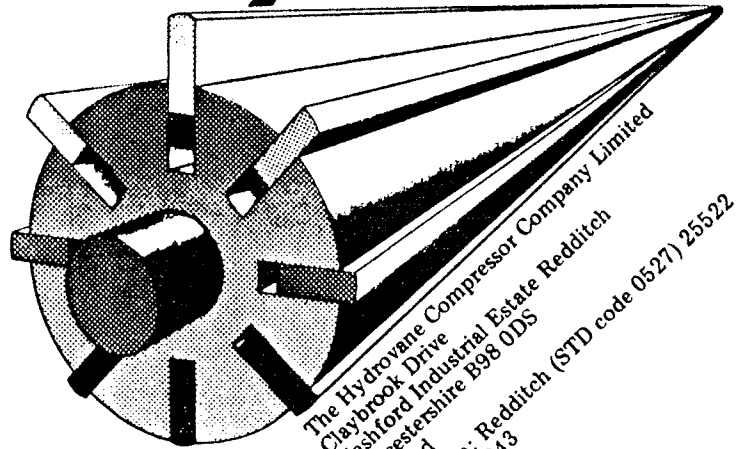
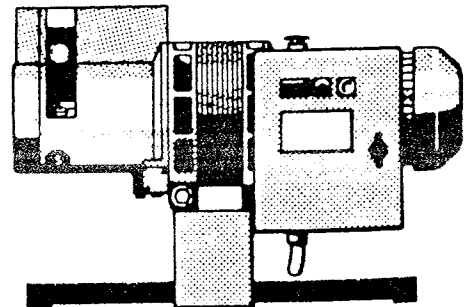


# Hydrovane



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23/ /43

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## Introduction

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The information in this publication is supplied as service guidelines for the Hydrovane trained engineer and to enable replacement of compressor parts.

Hydrovane policy is one of continual product improvement and therefore this information, whilst completely up to date when issued may be subject to revision.

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## Service Schedule


PERIOD OPERATION	EVERY DAY	EVERY 50 HOURS	* EVERY 2000 HOURS
Check Oil Level	●	●	
Clean Air Intake Filter		●	
Clean Oil Cooler		●	●
Clean Air Aftercooler		●	●
† Change Oil			●
Clean Oil Filter			●
Clean Oil Return Valve			●
Change Air Intake Filter			●
These periods must be regarded as maximum. Carry out routine service/checks more frequently in dusty conditions.			

\* Every 2000 hours running or one year, whichever occurs first.

† Period is reduced to 500 hours if not using Hydrovane 2000 oil.

## Approved Oils

USE OF CERTAIN OILS WILL CAUSE DAMAGE. USE OF ANY OIL OTHER THAN THOSE LISTED WILL CANCEL THE COMPRESSOR WARRANTY UNLESS WRITTEN AUTHORISATION HAS BEEN OBTAINED FROM HYDROVANE

MAKE MARQUE FABRIKAT MARCA MARCA MÄRKE	AMBIENT TEMPERATURE RANGE °C PLAGE DE TEMPERATURE AMBIANTE EN °C UMGEBUNGSTEMPERATURBEREICH °C ESCURSIONE TEMPERATURA IN °C GAMA DE TEMPERATURAS AMBIENTE °C OMGIVNINGSTERMPERATUR I °C					
	MIN 0 → MAX 40		MIN -6 → MAX 30		MIN -12 → MAX 20	
* Hydrovane 2000					—	
● B.P. VANELLUS	M40		M30		M20	
● SHELL RIMULA	X40		X30		—	
● MOBIL DELVAC	1240		1230		1220	
● MOBILAND DIESEL	40		30		20	
● BURMAH-CASTROL DEUSOL	CRI 40 CRB 40		CRI 30 CRB 30		CRI 20 CRB 20	
● AGRICASTROL	40		30		20	
● ESSOLUBE	HDX 40		HDX 30		HDX 20	
● GULFLUBE MOTOR OIL	XHD 40		XHD 30		XHD 20	
● TEXACO URSA OIL EXTRA DUTY	SAE 40		SAE 30		SAE 20	
● CHEVRON E.P. INDUSTRIAL OIL	68X		55X		55X	
<div>* 2000 HOUR OIL CHANGE      * VIDANGE A 2000 HEURES      * ÖLWECHSEL ALLE 2000 STUNDEN ● 500 HOUR OIL CHANGE      ● VIDANGE A 500 HEURES      ● ÖLWECHSEL ALLE 500 STUNDEN * CAMBIO OLIO OGNI 2000 ORE      * CAMBIO DE ACEITE CADA 2000 HORAS      * OLJEBYTE VAR 2000E TIMME ● CAMBIO OLIO OGNI 500 ORE      ● CAMBIO DE ACEITE CADA 500 HORAS      ● OLJEBYTE VAR 500E TIMME</div>						

### IMPORTANT!

If Hydrovane 2000 oil is mixed with another approved oil, the oil change interval is reduced to 500 hours. Therefore when changing from a standard oil ● to Hydrovane 2000, the first oil change must be made after 500 hours running. Subsequent oil changes are then made at 2000 hour intervals.

## Data-23

Free Air Delivered at 7 bar (Based on ISO 1217, BS1571)	10.1 litre/s (21.5 ft <sup>3</sup> /min)
Free Air Delivered at 10 bar (Based on ISO 1217, BS1571)	8.5 litre/s (18.1 ft <sup>3</sup> /min)
Standard Operating Pressure	7 bar (100 lbf/in <sup>2</sup> )
Optional High Operating Pressure	10 bar (150 lbf/in <sup>2</sup> )
Motor Power	4.1kW (5.5hp)
Cooling	Oil/Air
Oil Capacity	3.4 litre (6 pints)
Noise Level at 1 metre	74 dBA
Maximum Oil Temperature	104°C (220°F)
Safety Valve (Standard Pressure)	8.6 bar (125 lbf/in <sup>2</sup> )
Safety Valve (High Pressure)	12 bar (175 lbf/in <sup>2</sup> )
* Recommended Pipe Size (up to 300 metres long)	19mm I.D.
Height	755mm (29.7in)
Length	856mm (33.7in)
Width	516mm (20.3in)
Weight	120kg (265 lb)
Height	755mm (29.7in)
Length	1170mm (46.0in)
Width	556mm (21.9in)
Weight	130kg (287 lb)
Air discharge temp from aftercooler (PUAS)	2°C above ambient
Pressure drop through aftercooler (PUAS)	0.07 bar (1.0lbf/in <sup>2</sup> )
Air Outlet Size	½in BSP
* A larger pipe size may be considered if additional air demands are likely to be made.	

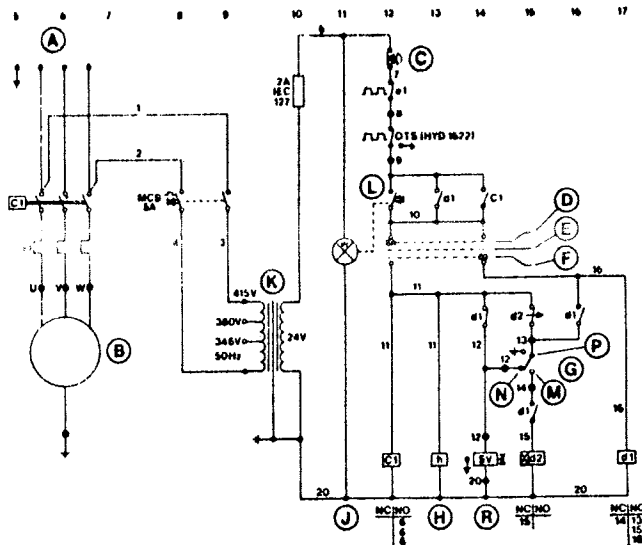
## Data-33

Free Air Delivered at 7 bar (Based on ISO 1217, BS1571)	14.1 litre/s (30 ft <sup>3</sup> /min)
Free Air Delivered at 10 bar (Based on ISO 1217, BS1571)	11.1 litre/s (23.6 ft <sup>3</sup> /min)
Standard Operating Pressure	7 bar (100 lbf/in <sup>2</sup> )
Optional High Operating Pressure	10 bar (150 lbf/in <sup>2</sup> )
Motor Power	5.5kW (7.5hp)
Cooling	Oil/Air
Oil Capacity	3.4 litre (6 pints)
Noise Level at 1 metre	74.6 dBA
Maximum Oil Temperature	104°C (220°F)
Safety Valve (Standard Pressure)	8.6 bar (125 lbf/in <sup>2</sup> )
Safety Valve (High Pressure)	12 bar (175 lbf/in <sup>2</sup> )
* Recommended Pipe Size (up to 300 metres long)	19mm I.D.
Height	755mm (29.7in)
Length	1010mm (39.8in)
Width	556mm (21.9in)
Weight	147 kg (324 lb)
Height	755mm (29.7in)
Length	1340mm (52.8in)
Width	610mm (24.0in)
Weight	161 kg (355 lb)
Air discharge temp from aftercooler (PUAS)	2°C above ambient
Pressure drop through aftercooler (PUAS)	0.07 bar (1.0lbf/in <sup>2</sup> )
Air Outlet Size	½in BSP
* A larger pipe size may be considered if additional air demands are likely to be made.	

## Data-43

Free Air Delivered at 7 bar (Based on ISO 1217, BS1571)	18.4 litre/s (39 ft <sup>3</sup> /min)
Free Air Delivered at 10 bar (Based on ISO 1217, BS1571)	14.9 litre/s (31.5 ft <sup>3</sup> /min)
Standard Operating Pressure	7 bar (100 lbf/in <sup>2</sup> )
Optional High Operating Pressure	10 bar (150 lbf/in <sup>2</sup> )
Motor Power	7.5kW (10hp)
Cooling	Oil/Air
Oil Capacity	3.9 litre (7 pints)
Noise Level at 1 metre	76 dBA
Maximum Oil Temperature	104°C (220°F)
Safety Valve (Standard Pressure)	8.6 bar (125 lbf/in <sup>2</sup> )
Safety Valve (High Pressure)	12 bar (175 lbf/in <sup>2</sup> )
* Recommended Pipe Size (up to 300 metres long)	19mm I.D.
Height	755mm (29.7in)
Length	1046mm (41.2in)
Width	559mm (22.0in)
Weight	165 kg (364 lb)
Height	755mm (29.7in)
Length	1422mm (56.0in)
Width	646mm (25.4in)
Weight	181 kg (399 lb)
Air discharge temp from aftercooler (PUAS)	2°C above ambient
Pressure drop through aftercooler (PUAS)	0.07 bar (1.0lbf/in <sup>2</sup> )
Air Outlet Size	½in BSP
* A larger pipe size may be considered if additional air demands are likely to be made.	

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**Key**

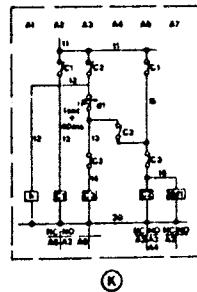
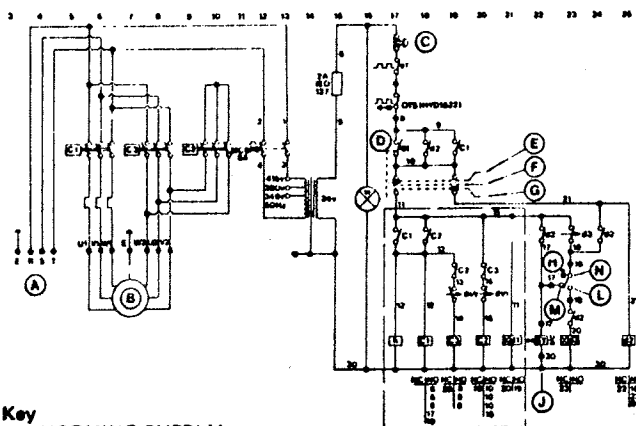
A INCOMING SUPPLY 3Ø  
B MOTOR 3Ø  
C EMERGENCY STOP P.B.  
D 'I' HAND  
E 'O' OFF  
F 'II' AUTO  
G PRESSURE SWITCH

H HOURS COUNTER  
J PUSH BUTTON/MAINS INDICATOR LAMP  
K CONTROL TRANSFORMER  
L RESET P.B.  
M HIGH  
N LOW  
P COMMON  
R SOLENOID VALVE

COMPRESSOR TYPE	MOTOR SIZE	Hz	WORKING VOLTAGE	VOLTAGE TOLERANCE	MOTOR OVERLOAD SETTING	SUGGESTED INCOMING CABLE SIZE	SUGGESTED MAINLINE FUSE SIZE*
23	4kW	50	346	±5%	10.5 A	2.5mm <sup>2</sup>	NIT 20M32
			380	±5%	9.5 A		NIT 20M25
			415	±6%	8.5 A		
33	5.5kW	50	346	±5%	13.5 A	2.5mm <sup>2</sup>	NIT 33M36
			380	±5%	12.0 A		
			415	±6%	11.0 A		NIT 20M32

\* HRC Fuse links BS88: 1975 GEC Type T or equivalent.

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**Key**

A	INCOMING SUPPLY	J	SOLENIOD VALVE
B	MOTOR	K	ALTERNATIVE CIRCUIT USING
C	EMERGENCY STOP P.B.		BENEDIKT & JAGER 'YD' TIMER
D	RESET P.B. 'I'	L	HIGH
E	'I' HAND	M	LOW
F	'O' OFF	N	COMMON
G	'II' AUTO		
H	PRESSURE SWITCH		

J SOLENIOD VALVE  
K ALTERNATIVE CIRCUIT USING  
BENEDIKT & JAGER  $\Delta$  TIMER  
L HIGH  
M LOW  
N COMMON

COMPRESSOR TYPE	MOTOR SIZE	Hz	WORKING VOLTAGE	VOLTAGE TOLERANCE	MOTOR OVERLOAD SETTING		SUGGESTED INCOMING CABLE SIZE	SUGGESTED MAINLINE FUSE SIZE*
					l	lo		
23	4kW	50	346	±5%	10.5 A	6.0 A	2.5mm <sup>2</sup>	20 A
			380	±5%	9.5 A	5.5 A		16 A
			415	±6%	8.5 A	5.0 A		
33	5.5kW	50	346	±5%	13.5 A	8.0 A	2.5mm <sup>2</sup>	20 A
			380	±5%	12.0 A	7.0 A		
			415	±6%	11.0 A	6.5 A		
43	7.5kW	50	346	±5%	18.0 A	10.5 A	2.5mm <sup>2</sup>	25 A
			380	±5%	16.0 A	9.5 A		
			415	±6%	15.0 A	8.5 A		

2. MPC Engine Note B588: 1975 GEC Type T or equivalent




## Safety Precautions

Before working on the compressor:—

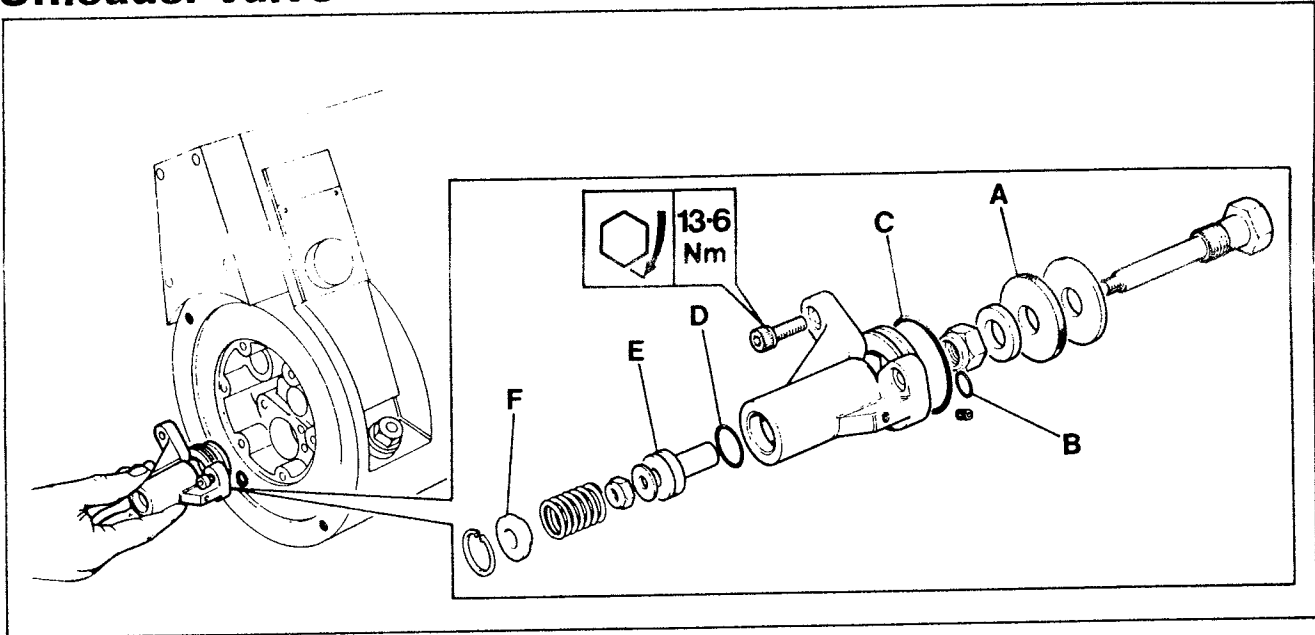
- Isolate compressor from mains electricity supply.
- Ensure that there is no pressure within the compressor or pipework system.

## Important Notes

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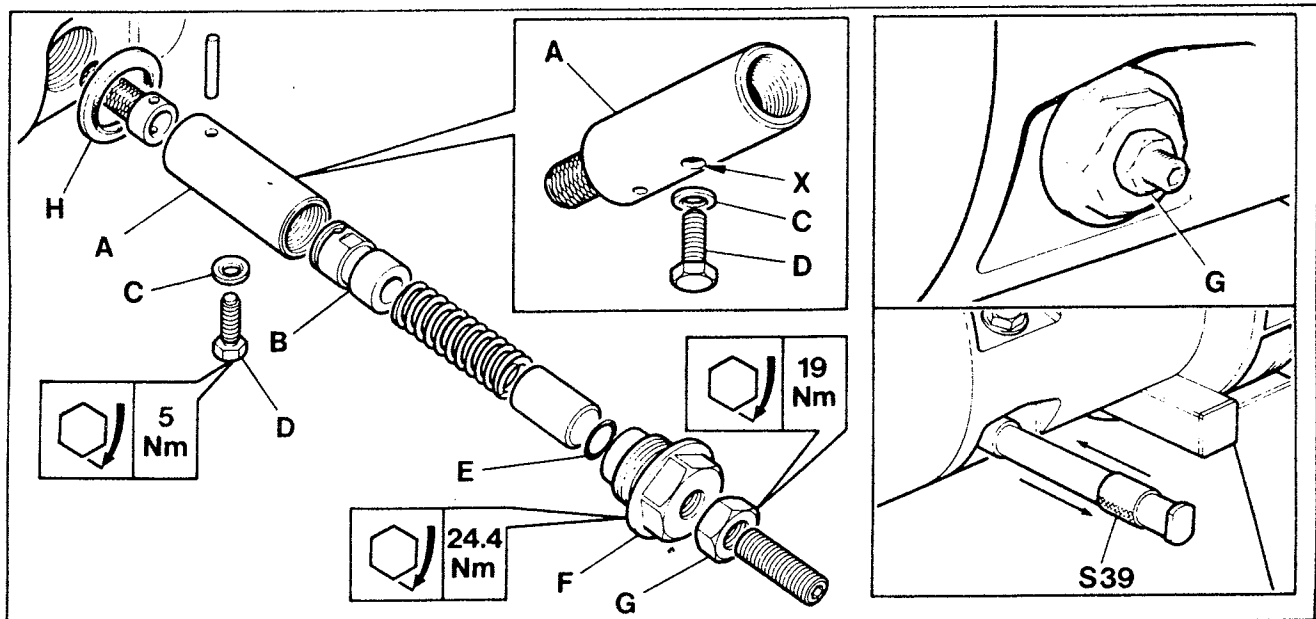
- Work on the compressor must be performed by suitably qualified persons and safe working practises must be employed. See SAFETY PRECAUTIONS.
- Inspect all parts before assembly. They must be in a clean and serviceable condition.
- Apply approved oil to all parts during assembly.
- Apply approved oil to all screw threads before tightening to the specified torque. Symbol  denotes torque required in Nm. (Multiply Nm by 0.74 to convert to lbf/ft).
- Renew all seals and gaskets removed during dismantling.
- Carry out servicing in clean conditions. It is recommended that all work is carried out on the workshop bench.
- Service tools may be purchased from your Hydrovane Distributor.
- Ensure that the compressor is filled with an APPROVED OIL before use.
- Always fit Hydrovane approved replacement parts. Failure to do so may result in forfeiture of warranty rights.

## Unloader Valve



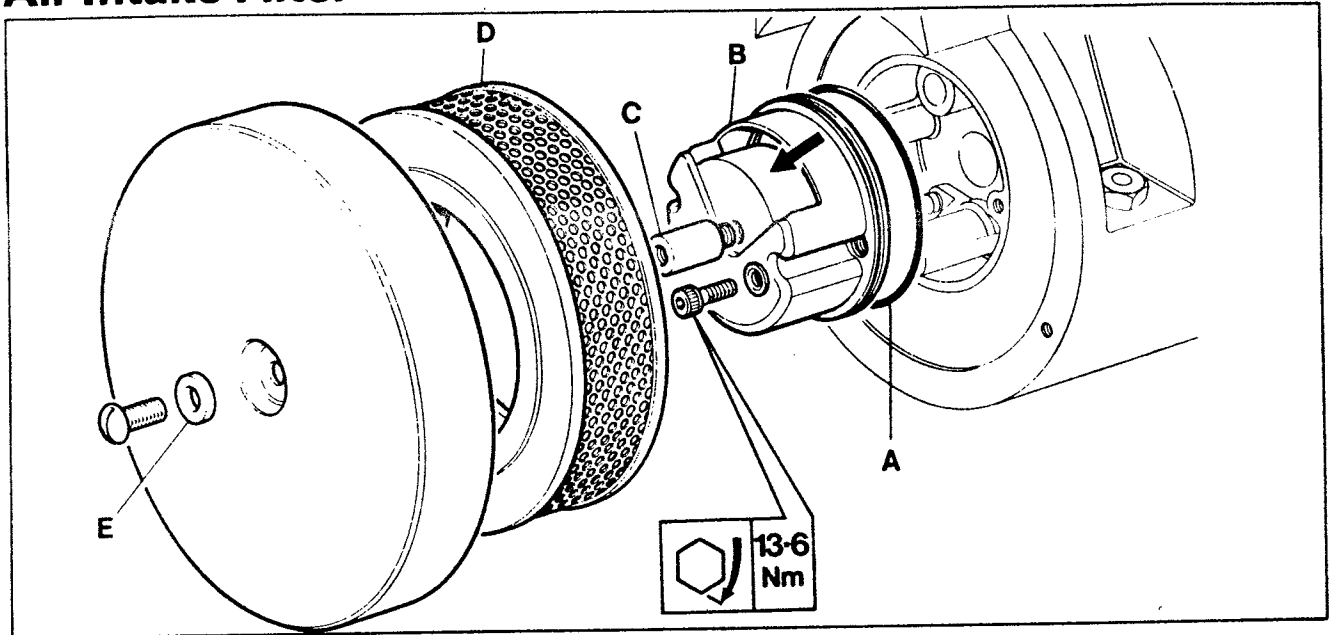
- Check seating washer (A) for damage. Renew if necessary.
- Renew 'O' rings (B) and (C) on valve body.
- Renew 'O' ring (D) on piston (E). Ensure piston works freely in the valve body.
- Spring stop (F) should be pushed down against the spring to enable fitting of retaining circlip.
- Insertion of complete valve assembly may be eased using a slight turning action. This should overcome 'O' ring resistance.

## Servo Valve



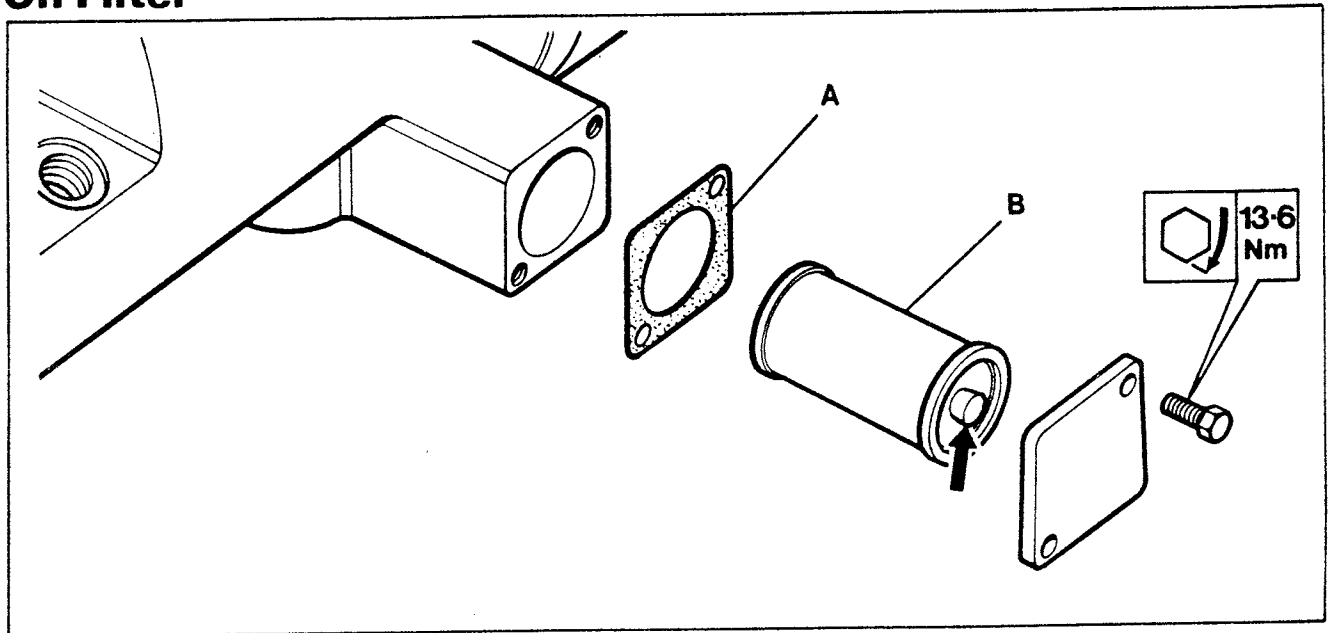
- Removal and refitting of piston (B) is simplified using threaded rod (1/4" B.S.F.) screwed into end of piston.
- Removal and refitting of servo sleeve (A) is simplified using Service Tool S39.
- Prior to assembly, ensure piston (B) is free from sharp edges and surface damage. Coat piston with oil and ensure it slides freely in sleeve (A). DO NOT USE GRINDING PASTE.
- Check that hole X in sleeve (A) aligns with bolt position in bottom of oil chamber. Renew seal (C) before fitting bolt (D).
- Ensure piston (B) is correctly inserted, cross-drilled end first.
- Renew 'O' ring (E) in plug (F), before fitting the carrier, plain end first.
- Adjuster nut (G) should be left loose for servo setting.
- Renew seal (H) on plug (F).

## Air Intake Filter



- Renew 'O' ring (A).
- Locate filter support (B) with port at top. Ensure spacer (C) is fitted on 43 compressor.
- Clean dust from filter (D) using low pressure, clean dry air. Renew filter if necessary. Ensure filter locates correctly in its recess.
- Renew seal (E).

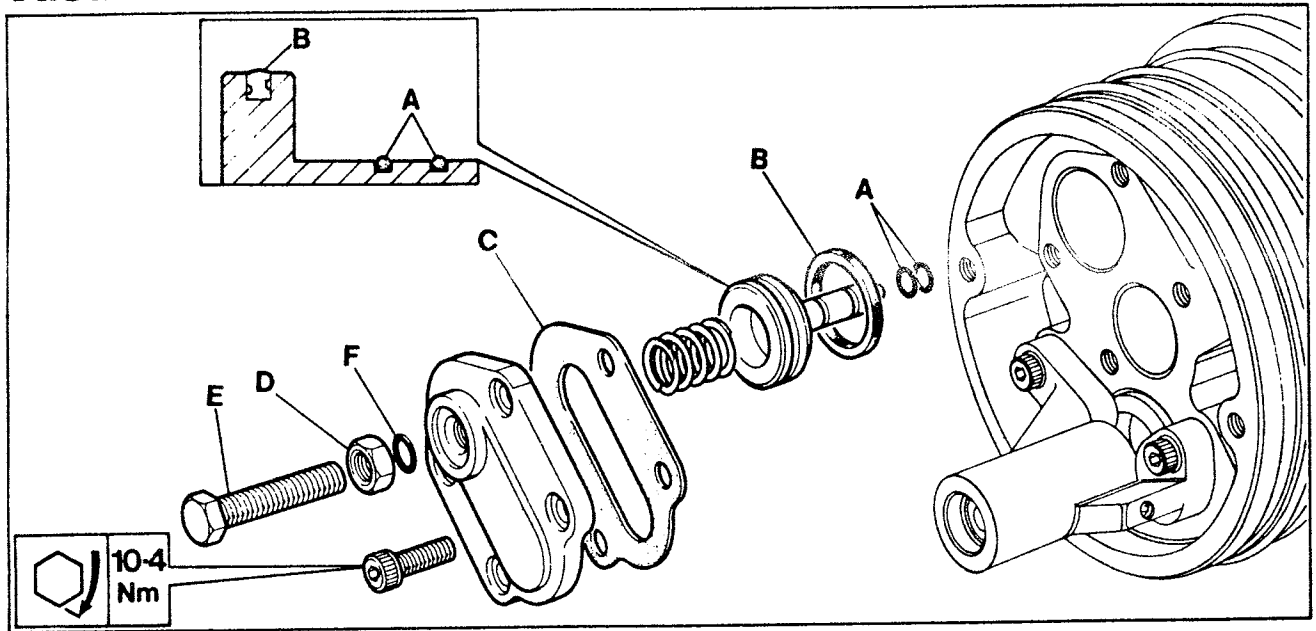
## Oil Filter



- Drain compressor oil prior to servicing. Refill with oil on service completion.
- Wash the filter (A) in white spirit or paraffin and wipe dry. Clean out filter bore.
- Ensure that the filter is fitted with the centre boss (arrowed) facing outwards.
- Renew gasket (B).



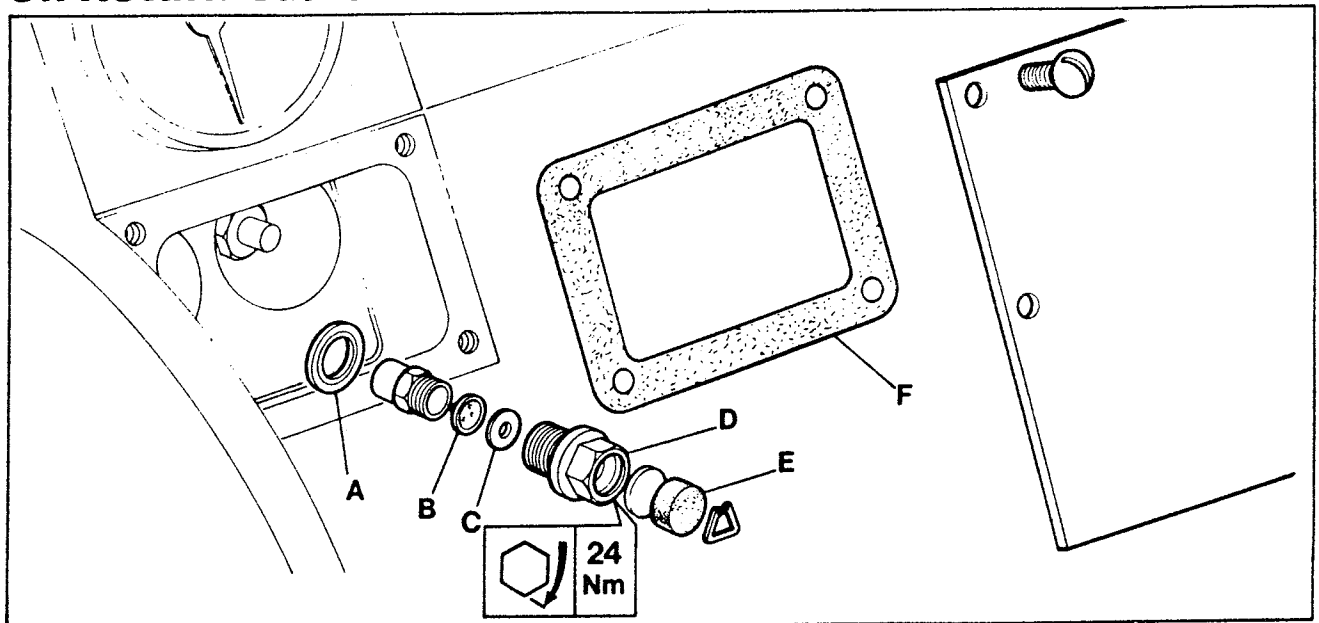
## Vacuum Relief Valve



- Renew 'O' rings (A) on piston.
- Renew seal (B) on piston. Ensure seal is fitted correctly as shown in inset.
- Piston should be pushed fully into end cover.
- Renew gasket (C).
- Screw nut (D) fully onto adjuster screw (B).
- Renew seal (F).
- Screw adjuster (E) fully into the valve cap.  
Unscrew adjuster 1½ turns, then tighten locknut (D) against valve cap.

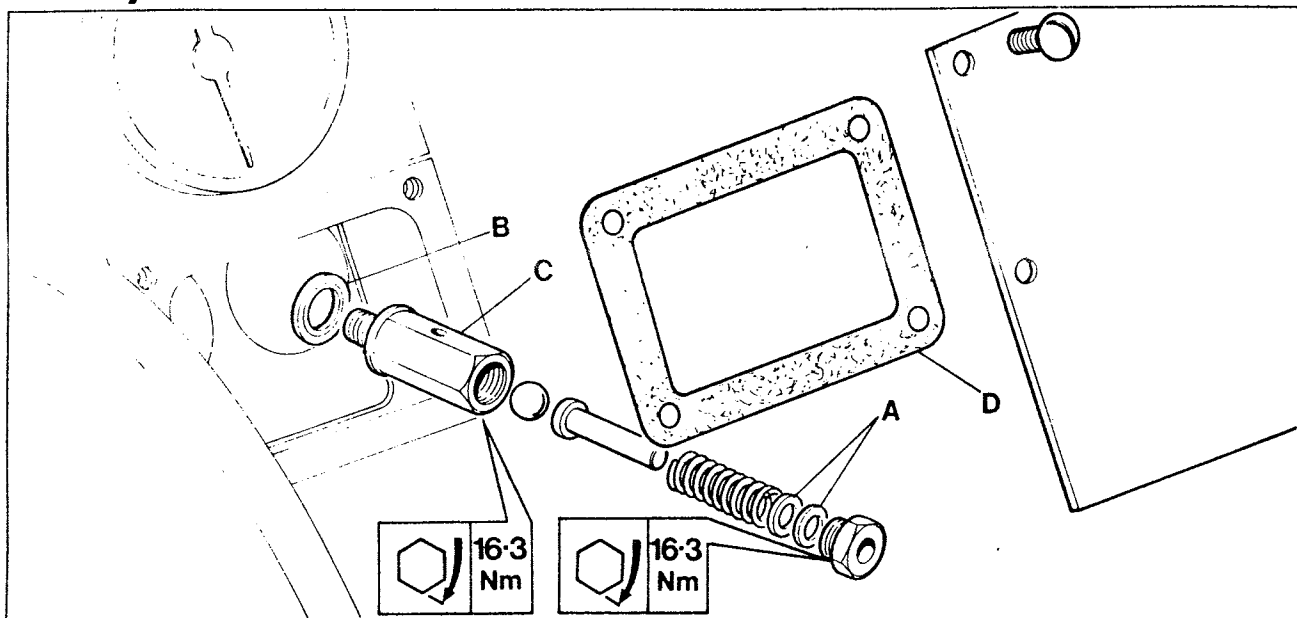
NOTE: This setting is approximate. Further slight adjustment may be required during TESTING to obtain best performance.

## Oil Return Valve



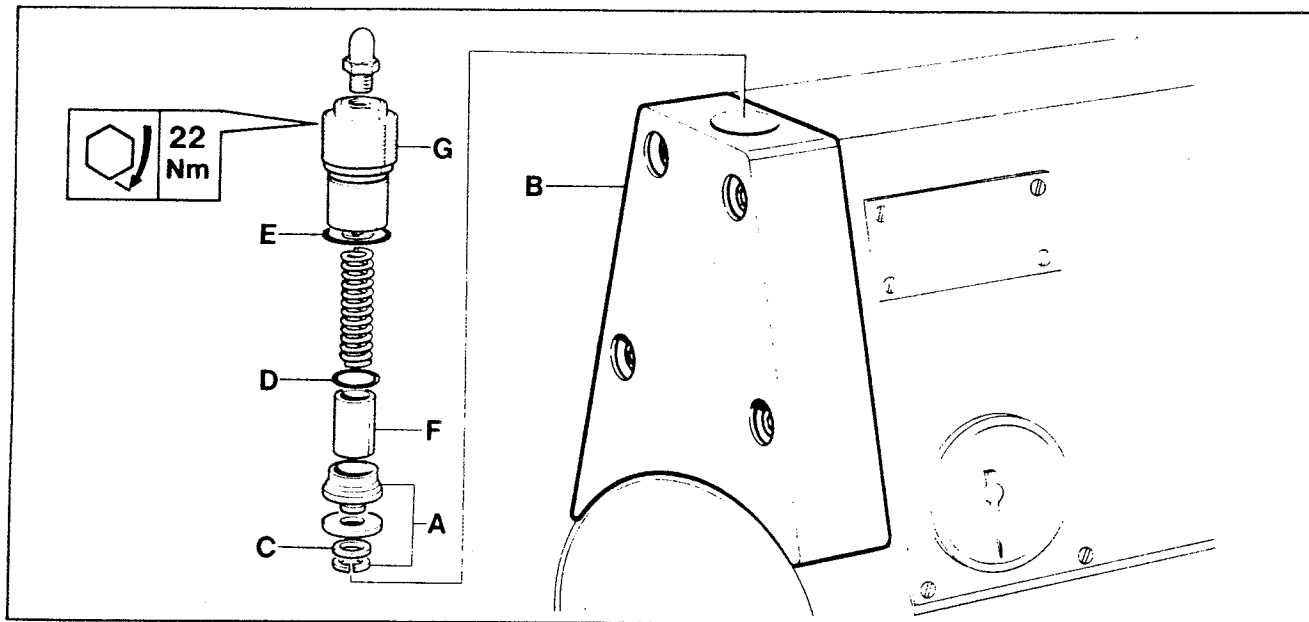
- All parts must be cleaned in white spirit or paraffin and wiped dry. Special care should be taken to ensure orifices in plate (C) and disc (B) are free from blockage.
- Renew filter (E).
- Renew seal (A) on valve body (D).
- Renew gasket (F).

## Safety Valve



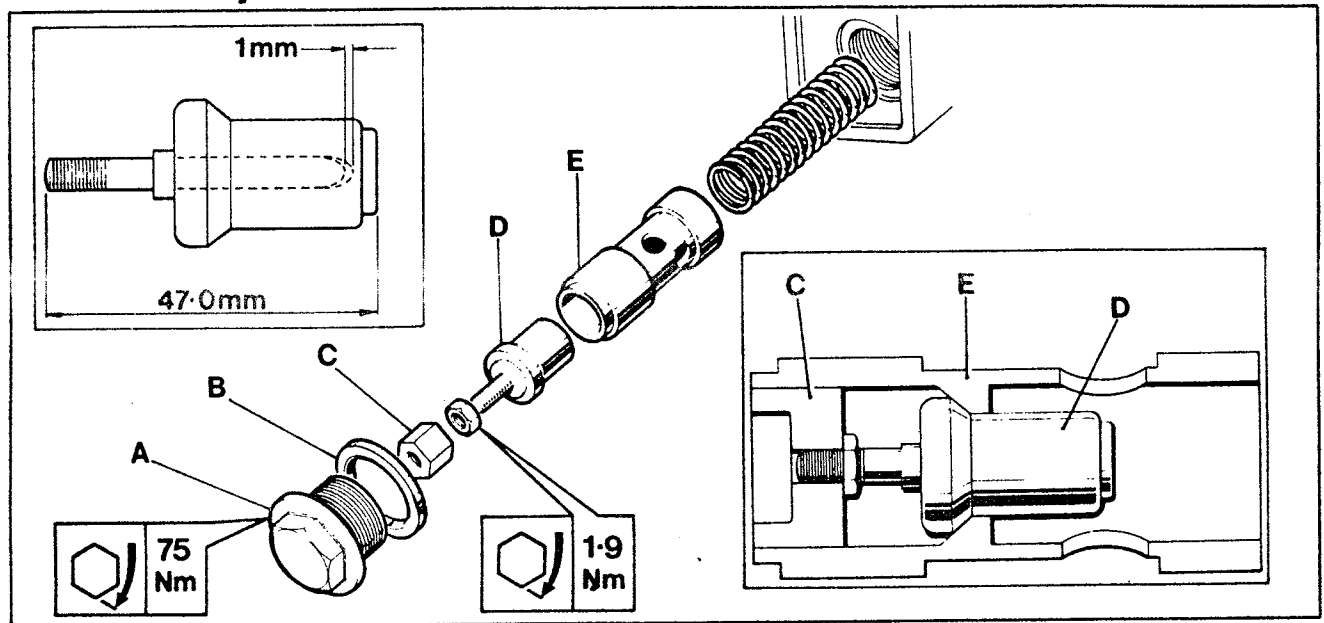
- Ensure that all shims (A) removed during dismantling are refitted. These are used to set the correct safety valve lift pressure.
- Renew bonded seal (B) on valve body (C).
- Renew gasket (D).

## Minimum Pressure Valve



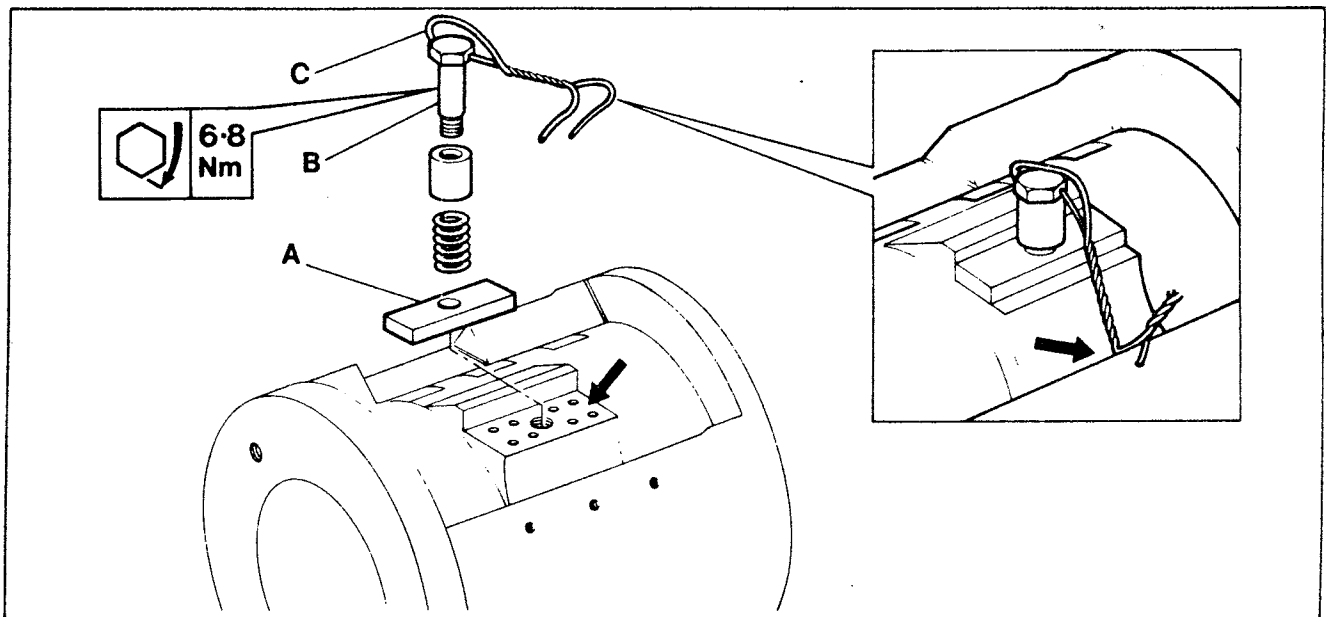
- Removal and refitting of non-return valve (A) assembly is simplified using long nosed pliers.
- Ensure valve (A) located centrally on its seat in end cover (B).
- Examine valve sealing washer (C) for damage, renew if necessary.
- Ensure that all shims removed are refitted. These are used to obtain correct valve setting.
- Renew 'O' rings (D) and (E) on valve body. Silicon grease must be applied to 'O' ring prior to assembly.
- Ensure piston (F) is located correctly in valve body when valve body (G) is being refitted.

## Thermal By-Pass Valve



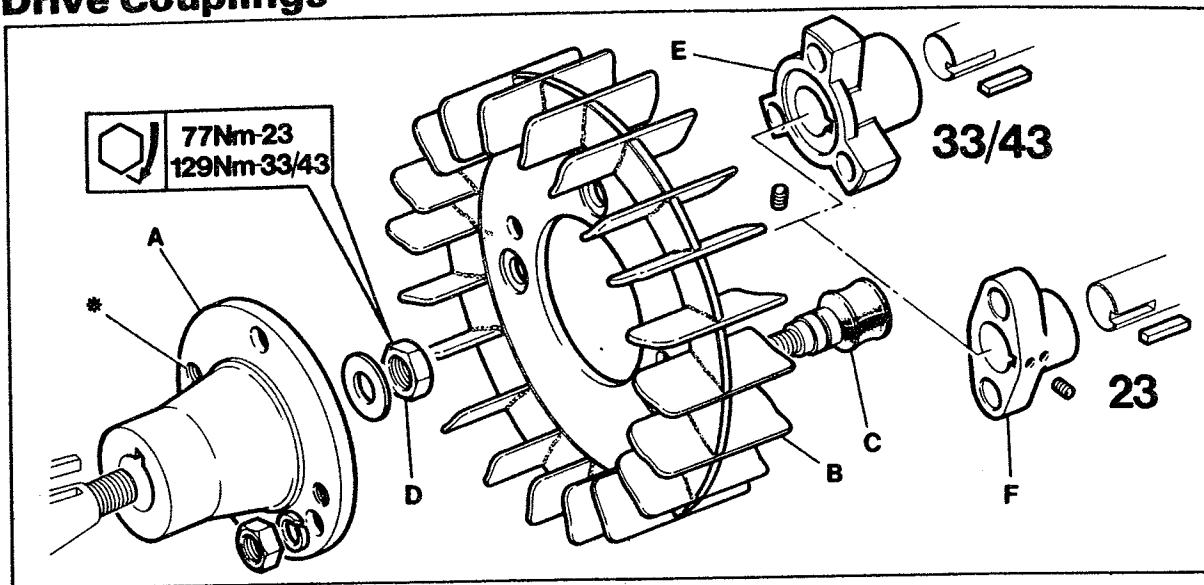
- If necessary check the thermostat (D) for correct operation. Thermostat starts operation at 82°C and normal extension at 96°C is 9.5mm (14.3mm max).
- Clean and degrease all parts. Ensure parts (C) and (E) are free from score marks and sharp edges.
- If new thermostat is being fitted, set its overall length to 47mm by sliding its piston in or out. **DO NOT REMOVE THE PISTON.**
- Adjusting cup (C) must be set flush with piston end face.
- Renew seal (B) on plug (A).

## Oil Relief Valve



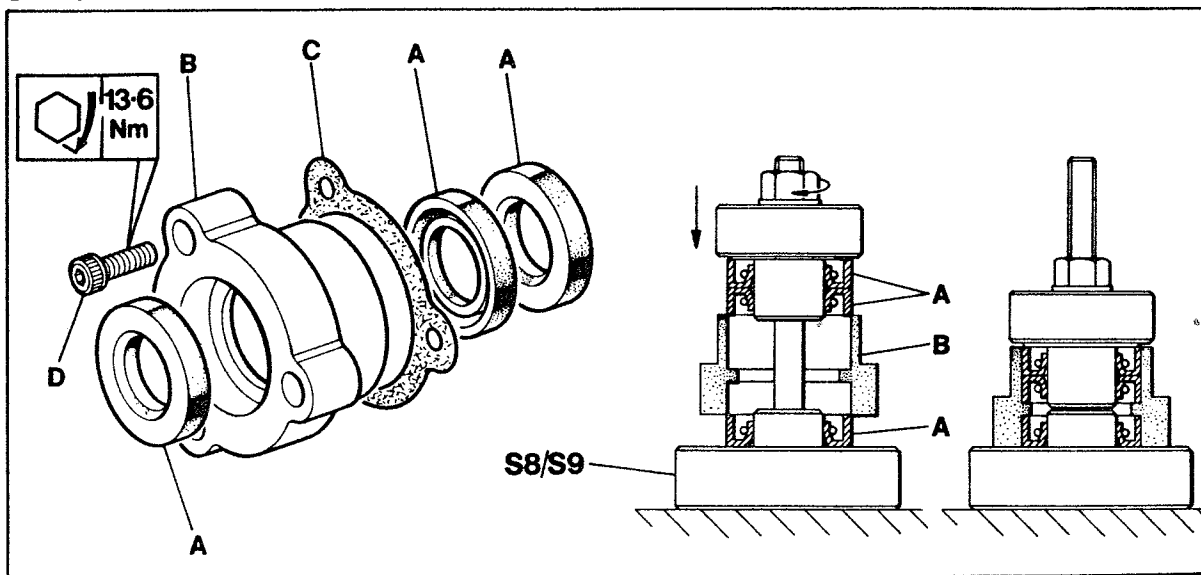
- Ensure that oil relief valve seating surface on stator (arrowed) is perfectly flat. Check surface flatness using marking blue between plate (A) and stator. Use emery stone to obtain flatness. Remove all trace of emery dust after using stone.
- Plate (A) must be located on stator with word "TOP" uppermost.
- The stem of screw (B) must be examined closely for wear. Any wear requires renewal of screw.
- Renew locking wire (C) securing screw to stator. Locking wire must be fitted as shown in diagram.

## Drive Couplings



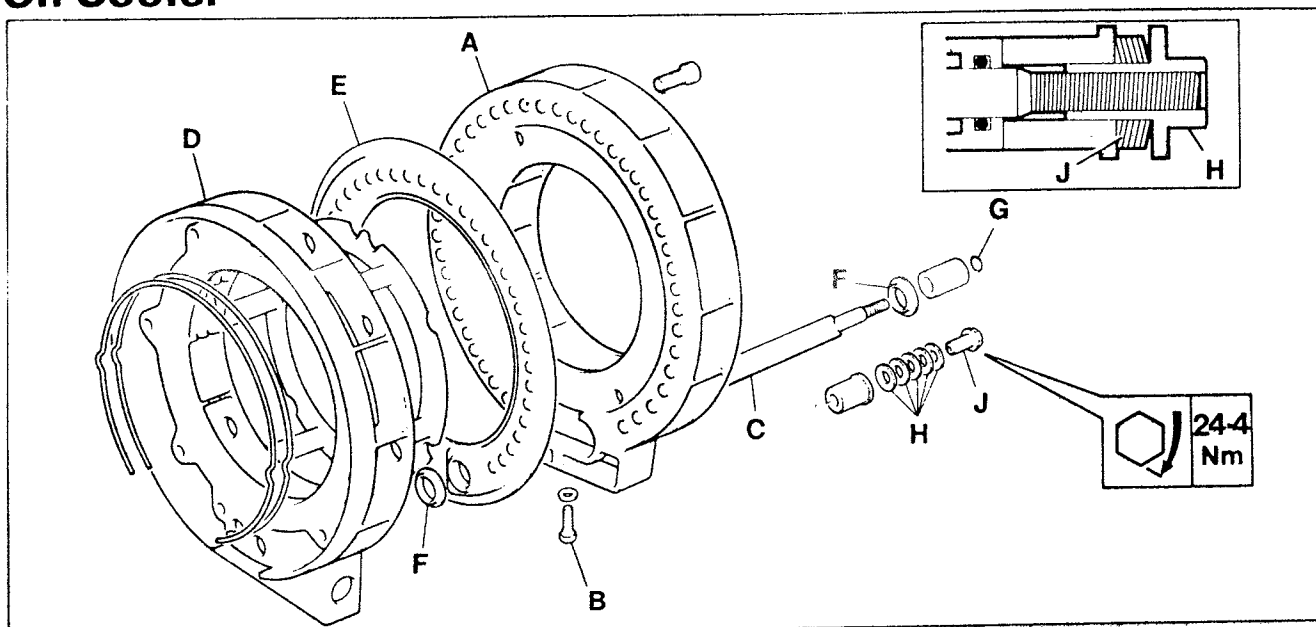
- Before dismantling drive, cooler flange must be removed.
- M10 holes \* in hub (A) may be used to extract the impeller (B) / hub assembly from the compressor shaft.
- Examine drive pins (C) for serviceability. Renew if necessary.
- Renew drive locknut (D), DO NOT APPLY OIL to its threads.
- 23 motor coupling  
Ensure motor shaft protrudes 3mm beyond coupling (E) when assembly is tight.
- 33/43 motor coupling  
Ensure coupling (F) is flush with end of motor shaft when assembly is tight.

## Oil Seals



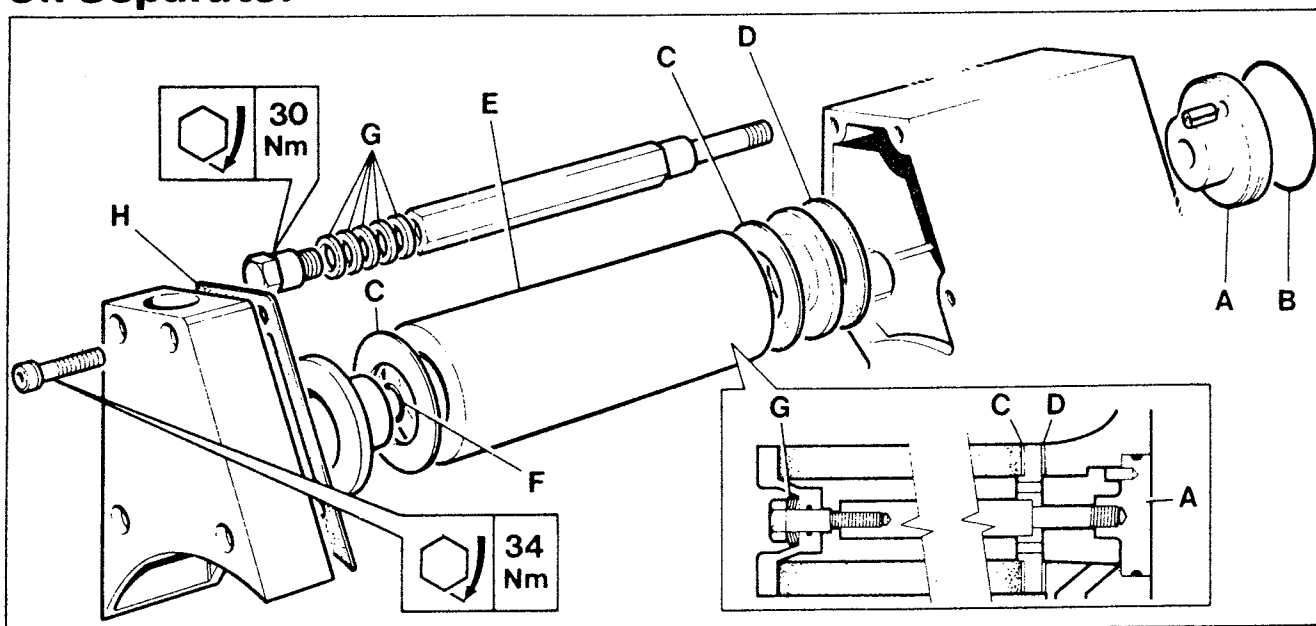
- Renew oil seals (A). Care should be taken to avoid damage to bore in housing (B) when old seals are being removed.
- If required, a new housing fitted with new seals may be obtained from your Distributor.
- Service tools S8 (23) or S9 (33/43) simplify fitting of new seals.
- Seals must be fitted correct way round as shown in diagram.
- Housing should be packed with silicon grease before assembly.
- Renew gasket (C).
- Housing is secured by two screws (D) on 23, three on 33/43.

## Oil Cooler



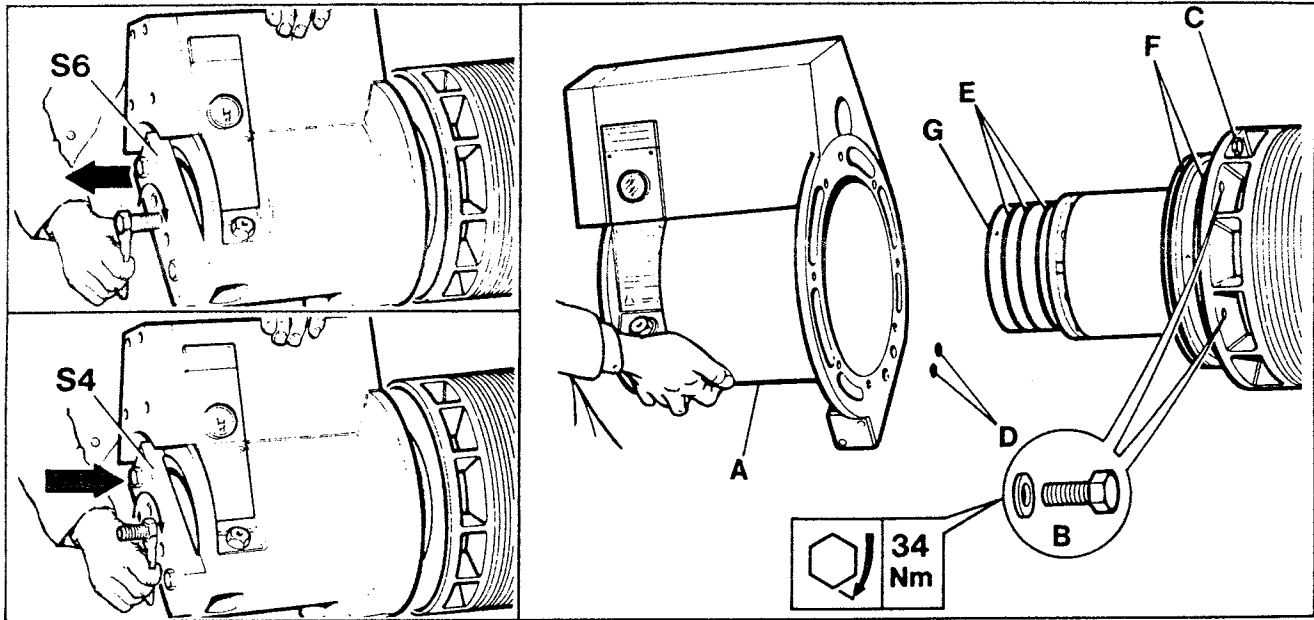
- Before dismantling cooler, flange (A) on 33/43 compressors should be separated from the stand by removing screw (B) and washer.
- Cooler bolts (C) must be screwed fully into flange (D).
- The following sequence for replacing plates (E) and washers (F) should be carried out.
  1. Renew all washers (F) and fit one over each bolt (C).
  2. Locate plate (E) over bolts.
  3. Repeat operations 1. and 2. until all plates are fitted.
  4. After final plate, fit one final washer (F) over each bolt.
- Renew 'O' rings (G) in sleeves.
- Five washers (H) must be coated in oil and fitted to each nut (J) prior to assembly. Washers must be fitted as shown in inset.

## Oil Separator



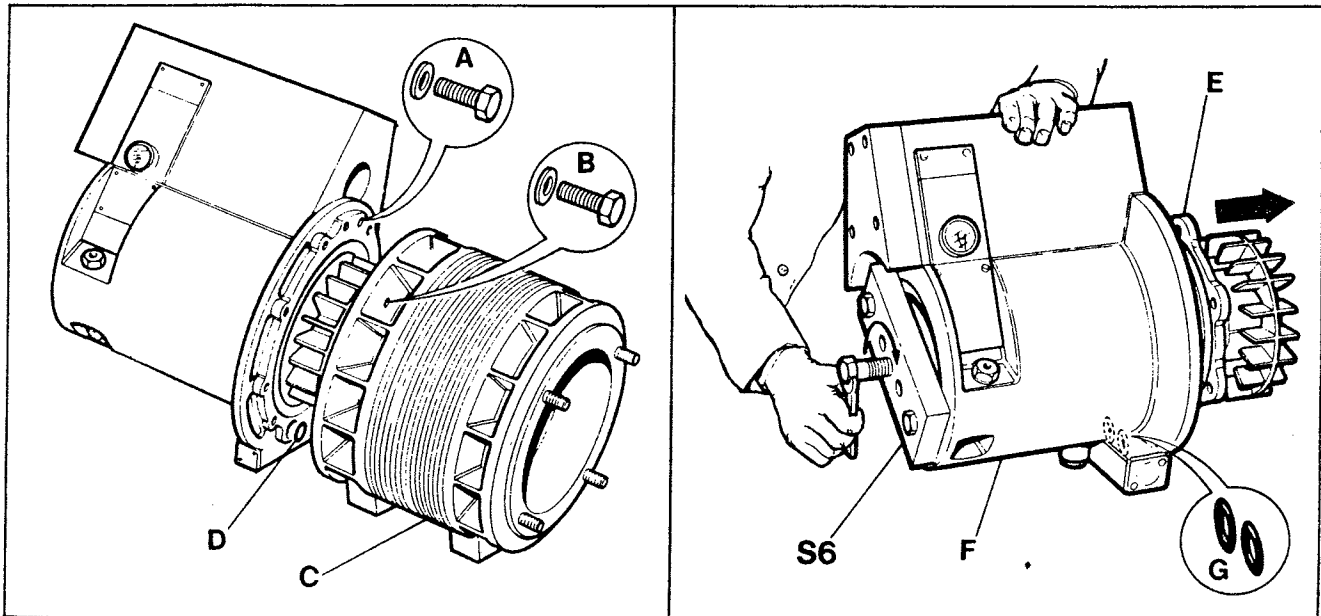
- If it is necessary to remove plug (A), then the oil chamber must be removed first and the plug pushed out from the inside. Renew 'O' ring (B).
- Renew the two 70mm gaskets (C) and 75mm gasket (D).
- Check filter (E). Renew if contaminated. Retain new gasket (C) on each end of filter using a little oil.
- Ensure correct location of filter (E) on end plug (A).
- Renew 'O' ring (F) in end cap.
- Washers (G) must be coated with oil and located as shown in inset.

## Oil Chamber



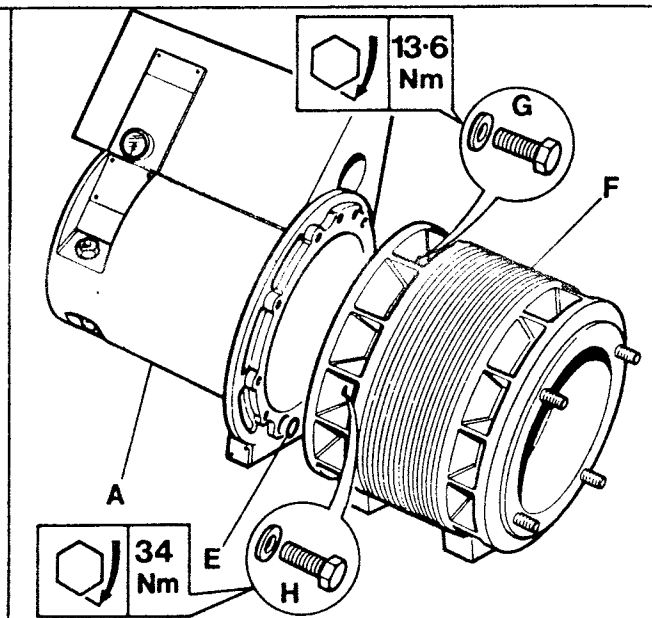
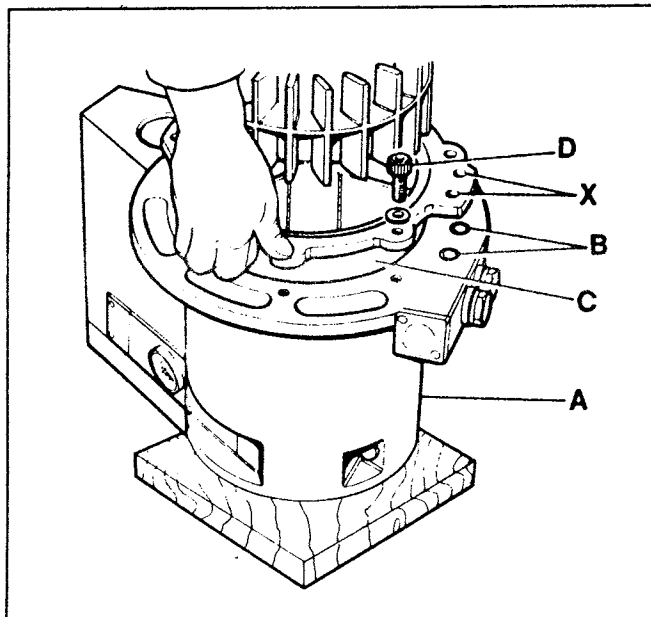
- Before removing oil chamber (A), remove eight M10 screws (B) but leave in position the single M6 screw (C).
  - Fix service tool S6 to oil chamber to simplify the removal.
  - Renew two seals (D).
  - Renew three 'O' rings (E) and two 'O' rings (F).
  - Service tool S4 enables correct assembly of oil chamber.
- Note: Round plate c/w stud from service tool S4 must be fitted to end cover (G) before oil chamber is located over rotor stator unit.

## Rotor Stator Unit-Removal



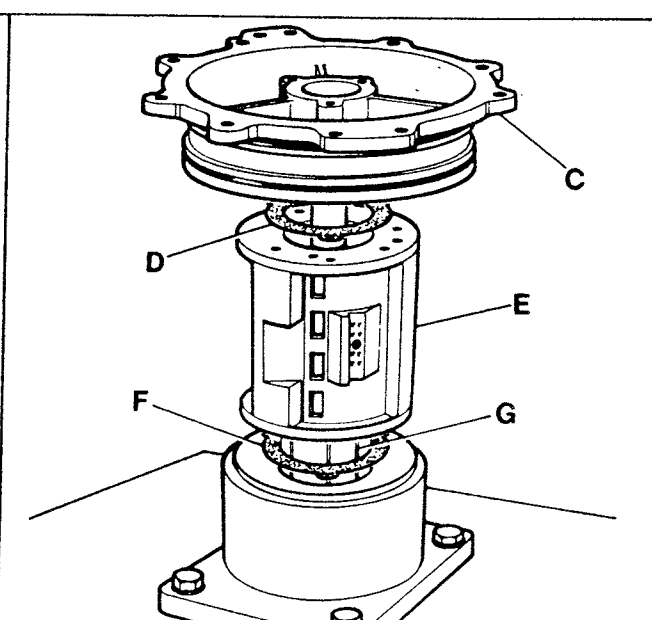
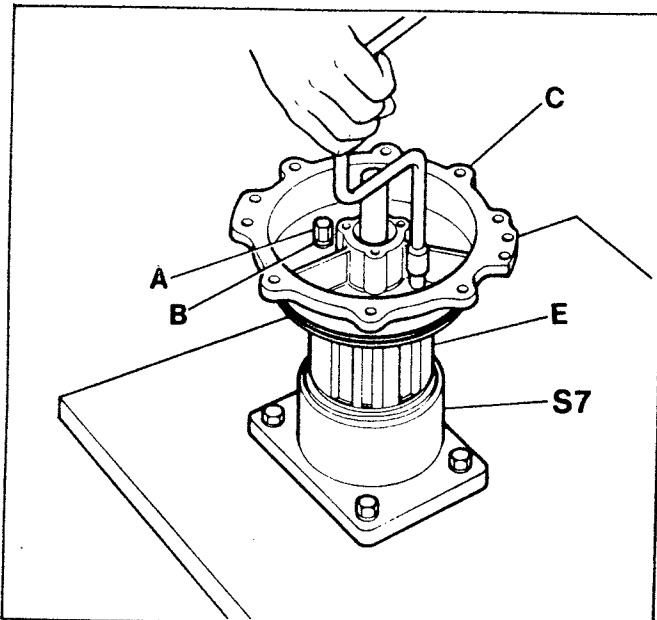
- Remove single M6 screw (A) and washer.
- Remove eight M10 screws (B) and washers.
- Lift off the cooler assembly (C).
- Discard two seals (D).
- Rotor stator unit (E) is extracted from the oil chamber (F) using service tool S6.
- Discard two seals (G).

## Rotor Stator Unit-Refitting



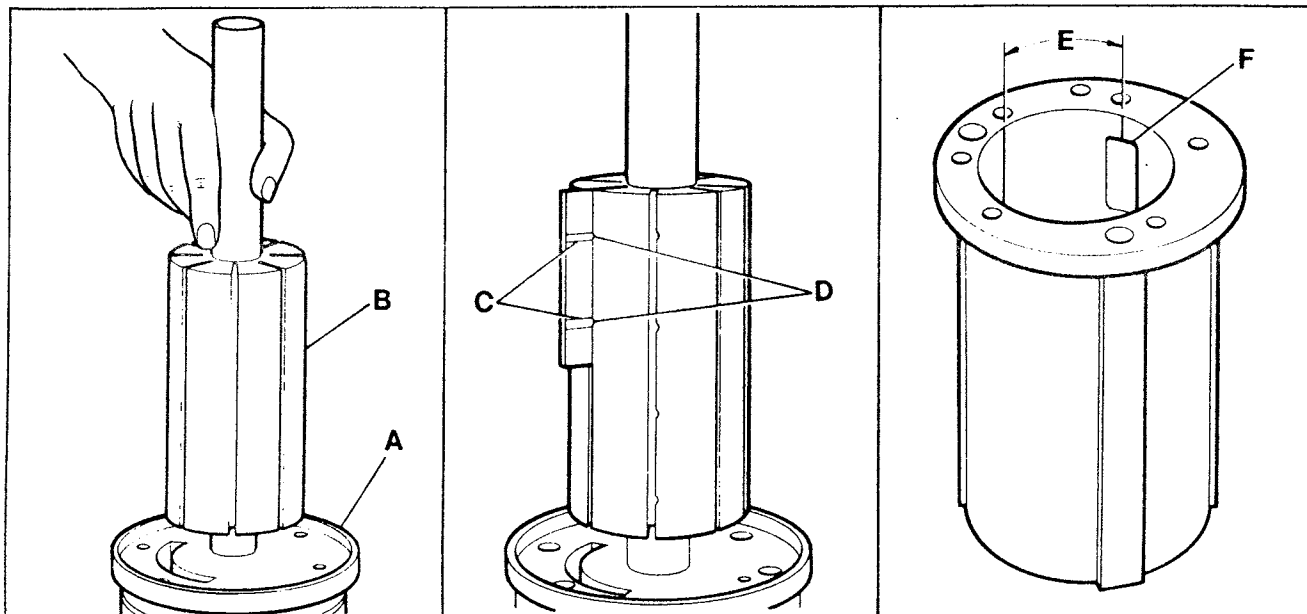
- Stand oil chamber (A) vertically on wooden blocks.
- Fit two new seals (B).
- Renew 'O' rings on outside of rotor stator unit as shown in instructions 'Oil Chamber'.
- Lift rotor stator unit (C) into oil chamber ensuring two holes X align with seals (B).
- Fit two M10 screws (D) through two diagonally opposite holes in end cover. Tighten the screws to fully insert the rotor stator unit then remove the screws.
- Fit two new seals (E).
- Lift on the cooler assembly (F).
- Fit single M6 screw (G) and washer and eight M10 screws (H) and washers.

## Rotor Stator Unit-Dismantle



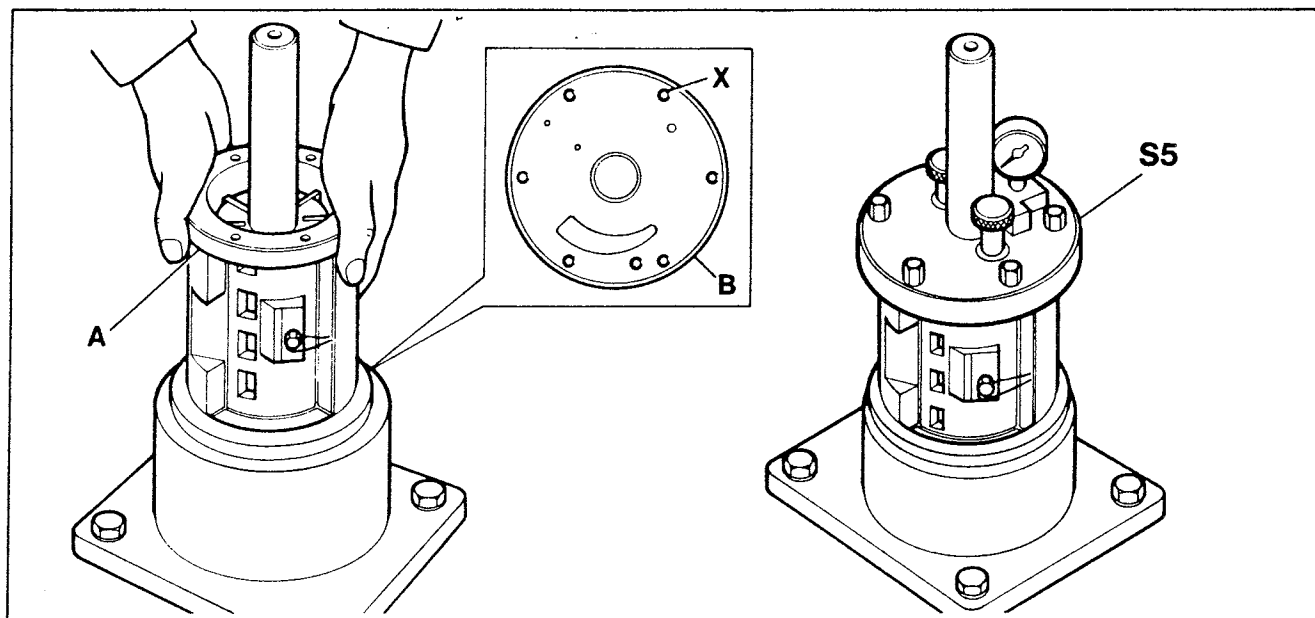
- Stand rotor stator unit in Service Tool S7.
- Remove outer cowl from rotor stator unit. Carefully note position of cowl and clip to ensure correct assembly.
- Remove six studs (A) and discard seals (B).
- Lift off drive end cover (C). Discard shim (D) after noting its colour and thickness.
- On 43 compressor remove inner cowl. Again note position of cowl and clip for correct assembly.
- Remove stator (E).
- Discard shim (F) after noting its colour and thickness.
- If blades in rotor (G) are to be re-used they must be removed from their slots and marked using a felt pen (NOT SCRATCHED) so that each blade can be placed in same position on assembly.
- Remove rotor (G).

## Rotor Stator Unit-Examine



- Inspect both end cover faces and bearings for damage, renew if necessary.
- Stand intake end cover (A) in Service Tool S7. Apply oil to its bearing.
- Fit rotor (B) to end cover (A).
- **FITTING BLADES**
  1. Blades must be perfectly clean and fitted two to each slot with rounded edge outwards.
  2. Original blades must be fitted in their original positions. Marks (C) must correspond with grooves (D).
- Examine stator for damage. Ensure cutaway (E) is clearly defined by two straight lines along bore. One line passes through air delivery ports (F).
- Ensure all drillings in stator are free from debris.

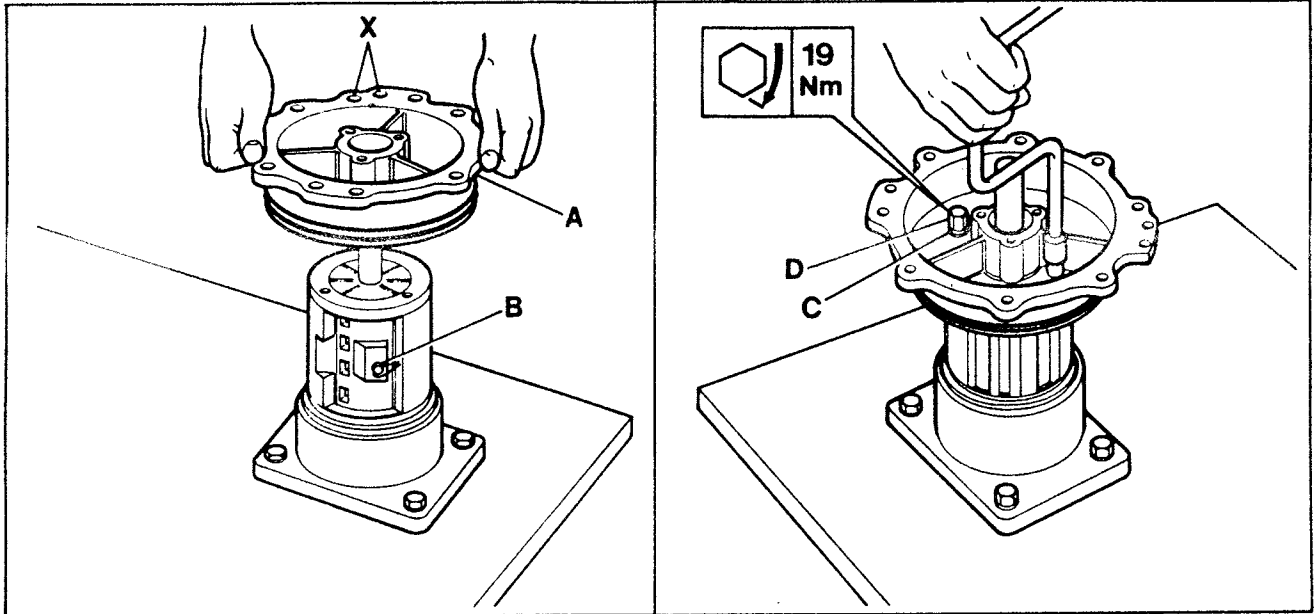
## Rotor Stator Unit-Assemble



- Fit a new shim to intake end of stator (A). Same size shim as that removed.
  - 23/33 STATOR  
Fit stator over rotor after ensuring location dowel is fitted.
  - 43 STATOR  
Fit stud (Service Tool S43) to hole X in intake end cover (B).  
Fit stator over rotor ensuring the stud passes through hole adjacent to stator cutaway.
  - Using Service Tool S5 check clearance between end cover and rotor. Use a new shim to obtain the required 0.2 mm clearance
- NOTE: FULL DETAILS OF SHIM SIZES AVAILABLE ARE SHOWN ON PARTS LISTS (G) AND (H).**



## Rotor Stator Unit-Assemble



- Pour approved oil over rotor and down stator.
  - Ensure shim is located. Apply oil to drive end cover (A) bearing bush.
  - On 43 compressor, fit inner cowl and lip. Ensure original positions are maintained.
- 23/43 DRIVE END COVER**  
Lower end cover (A) over rotor shaft after ensuring location dowel is fitted.
- 43 DRIVE END COVER**  
Lower end cover (A) over rotor shaft and stud S43 ensuring holes X are opposite to oil relief valve (B).
- Fit new seals (C) to studs (D).
  - Refit and tighten studs (D) evenly. (On 43 remove stud S43 before fitting final stud (D)).
  - Check rotor turns freely.
  - Fit outer cowl and clip. Ensure original positions are maintained.

# 2

## Safety Precautions

Before working on the compressor:—

- Isolate compressor from mains electricity supply.
- Ensure that there is no pressure within the compressor or pipework system.

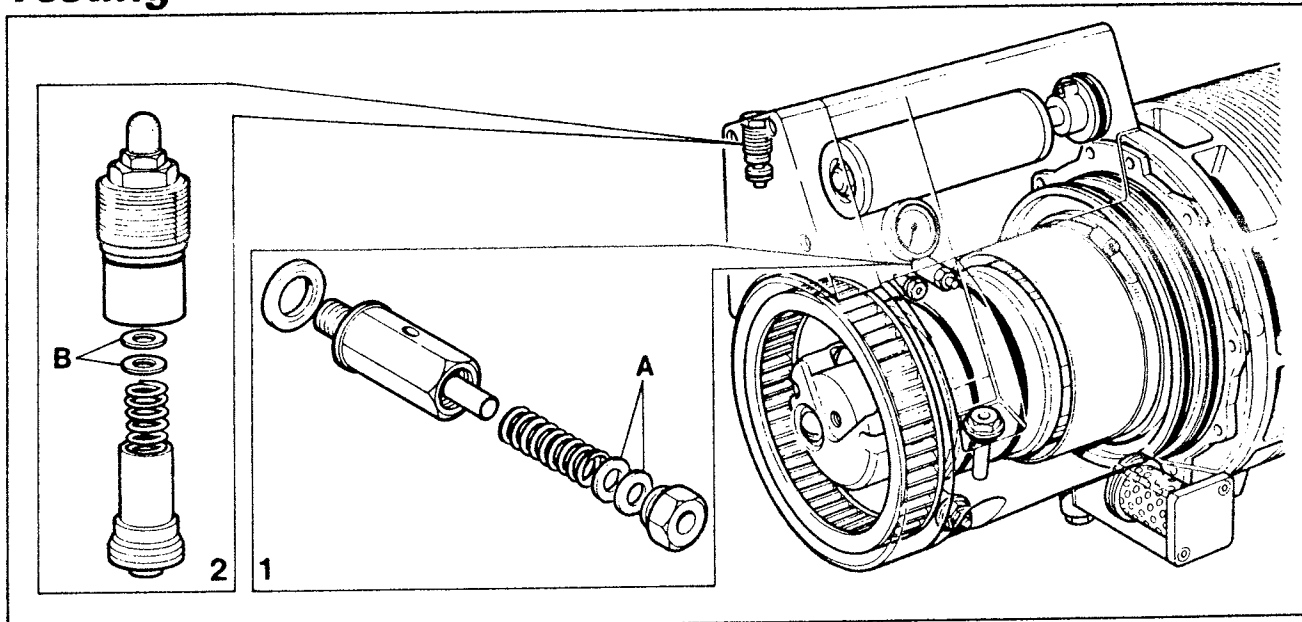
## Testing

After the compressor has been overhauled, carry out the tests and adjustments detailed on the following pages.

### BEFORE TESTING:—

- Remove oil filler plug and fill compressor to overflow with APPROVED OIL. Refit filler plug.
  - Put small amount of oil and thermometer into hole in top of the filler plug.
  - Fit outlet valve to compressor after disconnecting other pipework.
  - Start compressor (continuous running).
  - Adjust servo to setting shown below.
  - Open outlet valve fully to atmosphere.
  - Allow compressor to warm up for thirty minutes before testing.
  - Keep careful check on oil temperature.
1. SAFETY VALVE LIFT PRESSURE  
For 7 bar compressor, setting = 8.6 bar  
For 10 bar compressor, setting = 12 bar
  2. MINIMUM PRESSURE VALVE  
Setting = 5.5 bar
  3. SERVO VALVE  
For 7 bar compressor, setting = 7.4 bar  
For 10 bar compressor, setting = 10.4 bar
  4. VACUUM RELIEF VALVE
  5. OIL TEMPERATURE  
Normal running = 88°C approx.
  6. AIR OUTPUT  
Outputs as specified in 'DATA'
  7. LEAKAGE CHECK  
General oil and air leakage examination.

## Testing



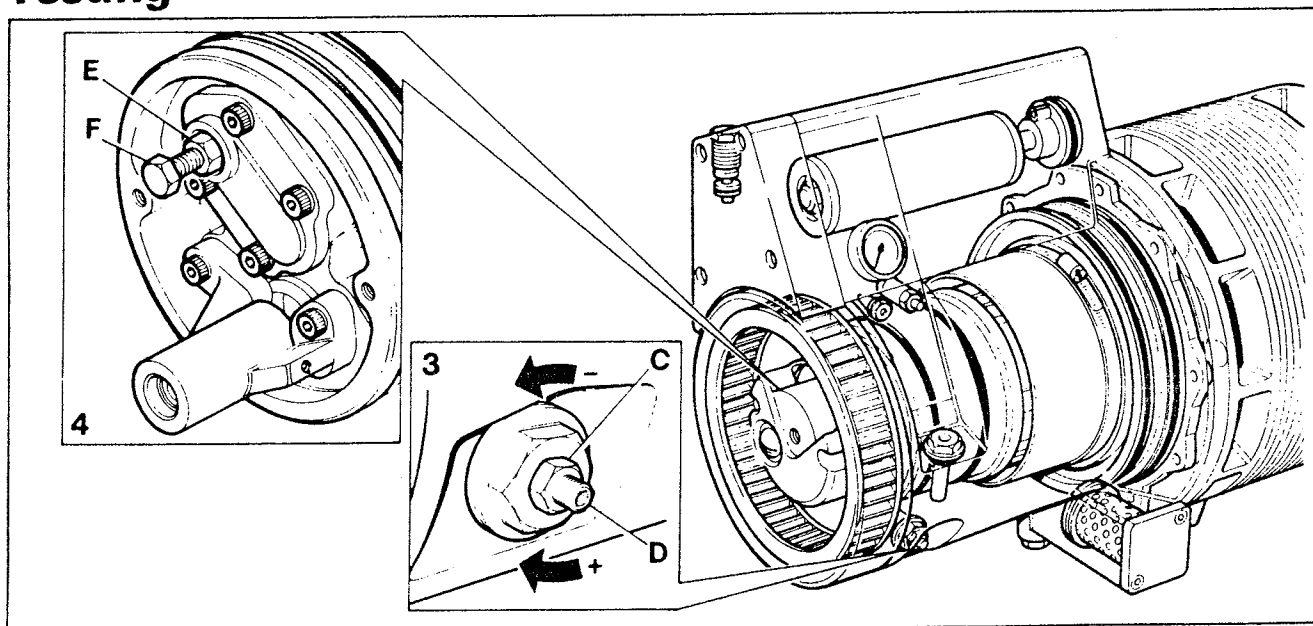
### 1. SAFETY VALVE LIFT PRESSURE

- Close outlet valve. Start compressor (continuous run).
- Screw in servo until safety valve lifts. Gauge pressure should be 8.6 bar (7 bar compressor) or 12 bar (10 bar compressor).
- Adjust lift pressure by increasing or decreasing number of shims (A) in valve.

### 2. MINIMUM PRESSURE VALVE

- Start compressor (continuous run). Open outlet valve fully
- Check the lowest gauge pressure obtainable.  
This should be 5.2 - 5.5 bar
- Adjust pressure by increasing or decreasing the number of shims (B) in valve.

## Testing



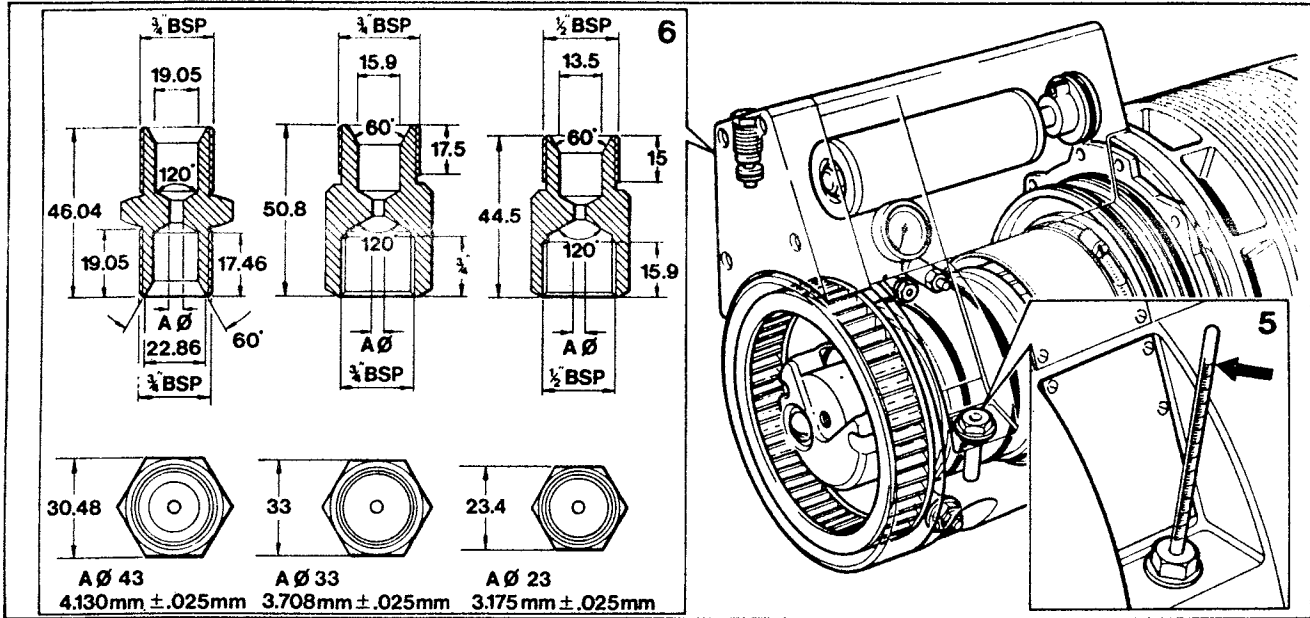
### 3. SERVO VALVE

- Start compressor (continuous run). Close outlet valve
- Slacken nut (C) Adjust screw (D) until gauge pressure is 7.4 bar (7 bar compressor) or 10.4 bar (10 bar compressor).
- Tighten nut (C) after adjustment.

### 4. VACUUM RELIEF VALVE

- Close outlet valve. Start compressor (continuous run).
- If rattle is heard, then adjustment is necessary.  
Stop compressor.
- Slacken nut (E). Screw adjuster (F) fully in.
- Unscrew adjuster (F) two turns.
- Close outlet valve. Start compressor. Adjust until rattle is eliminated then tighten nut (E).

# Testing



## 5. OIL TEMPERATURE

- Oil temperature with compressor delivering full output must not exceed 105°C. Average temperature should be 88°C approx.

## 6. AIR OUTPUT

- Screw test nozzle into compressor outlet.
- Close outlet valve. Start compressor (continuous run).
- Open outlet valve fully. Pressure on gauge should not fall below 6.5 bar.

\* Test nozzle Ø A should be REAMED.

## 7. LEAKAGE CHECK

- Examine all external seals, gaskets and pipe connections for air or oil leakage.
- NO LEAKAGE IS PERMISSIBLE.**

## Safety Precautions

Before working on the compressor:—

- Isolate compressor from mains electricity supply.
- Ensure that there is no pressure within the compressor or pipework system.

## Trouble Shooting

The charts on the following pages provide indications and possible sources of faults which may occur on the Hydrovane compressor.

These faults are arranged into four major categories.

<b>1</b>	<b>HIGH PRESSURE</b>	Pressure rises until safety valve lifts.
<b>2</b>	<b>HIGH TEMPERATURE</b>	Oil temperature higher than 105°C
<b>3</b>	<b>LOW AIR OUTPUT</b>	Lack of air at point of usage.
<b>4</b>	<b>OIL DISCHARGE</b>	Excessive oil discharged by compressor into air line.

**IMPORTANT!** All work must be performed by suitably qualified persons, and safe working practices must be employed.

All seals and gaskets disturbed during this work must be renewed.

**1****High Pressure**

Pression Excessive Hochdruck Alta Pressior

**INDICATIONS**

- Pressure rises & safety valve blows.
- Air/oil vapour discharged from intake.
- Rapid pressure loss on stopping compressor.
- Air/oil vapour discharged from intake on stopping compressor.
- High temperature and high power absorption.

**CHECK**

- First ensure that safety valve is set to the correct lift pressure.
- IF PRESSURE RISES QUICKLY, CHECK:-**
1. Servo valve setting (too high).
  2. Servo valve may be sticking closed.
  3. Servo filter may be blocked.
  4. Unloader valves may be stuck open.
- IF PRESSURE RISES SLOWLY, CHECK:-**
1. Possible leakage from unloader valve seat.
  2. Unloader valve 'O' ring(s) may be leaking.
  3. Vacuum valve seal may be leaking.

**2****High Temperature**

Surchauffe Heißlauf Alta Temperatura Alta

**INDICATIONS**

- Compressor cuts out.
- Compressor seizing.
- Low air output.
- High power absorption.

**CHECK**

- Verify compressor oil temperature
- ENVIRONMENTAL CHECK**
1. Insufficient ventilation.
  2. Excessively dusty conditions.
  3. Air intake near heat source.
- COMPRESSOR CHECK**
1. Low oil level.
  2. Wrong type / grade of oil.
  3. Blocked oil cooler.
  4. Blocked oil filter.
  5. Thermal bypass valve stuck in closed position.
  6. Incorrect stator end clearance.
  7. Stator end clearance shims leaking.
  8. Oil relief valve(S) sticking open.
  9. Internal oil passages blocked.

**3****Low Air Output**

Débit D'air Insuffisant Leistungsmangel Bassa

**INDICATIONS**

- Malfunction in air tools / equipment.
- Rapid pressure loss in air system.
- Pressure gauge reads less than 7 bar.
- Rapid pressure loss from compressor on stopping.

**CHECK**

- Check compressor air output using test nozzle.
  - Check for excessive air demand.
  - Check pressure gauge for accuracy.
- IF PRESSURE GAUGE READING MORE THAN 6.5 BAR, CHECK:-**
1. Restriction in airline e.g. valves closed.
  2. Leakage in air line.
  3. Pipework too small.
- IF PRESSURE GAUGE READING LESS THAN 6.5 BAR, CHECK:-**
1. Air intake filter blockage.
  2. Unloader valve may be stuck closed.
  3. Servo valve setting (too low).
  4. Servo valve may be stuck open.
  5. Separator blockage.
  6. Minimum pressure valve may be stuck closed.
  7. Leaking 'O' ring(S) in minimum pressure valve.
  8. Safety valve setting (too low).

**4****Oil Discharge**

Refoulement D'huile Bestellung Von Ersatzteil

**INDICATIONS**

- Heavy compressor oil consumption.
- Low air output.
- Possible high power absorption.

**CHECK**

- Verify that oil discharge exceeds compressor specification.
- GENERAL CHECK**
1. Wrong type / grade of oil.
  2. Incorrect stopping procedure.
  3. Excessive air demand.
  4. Compressor overfilled with oil.
  5. Compressor not sited level.
- COMPRESSOR CHECK**
1. Oil return valve blockage.
  2. Separator element fracture.
  3. Separator element incorrectly located.
  4. Separator seal(s) leaking.
  5. Separator clamped loosely.

# 4

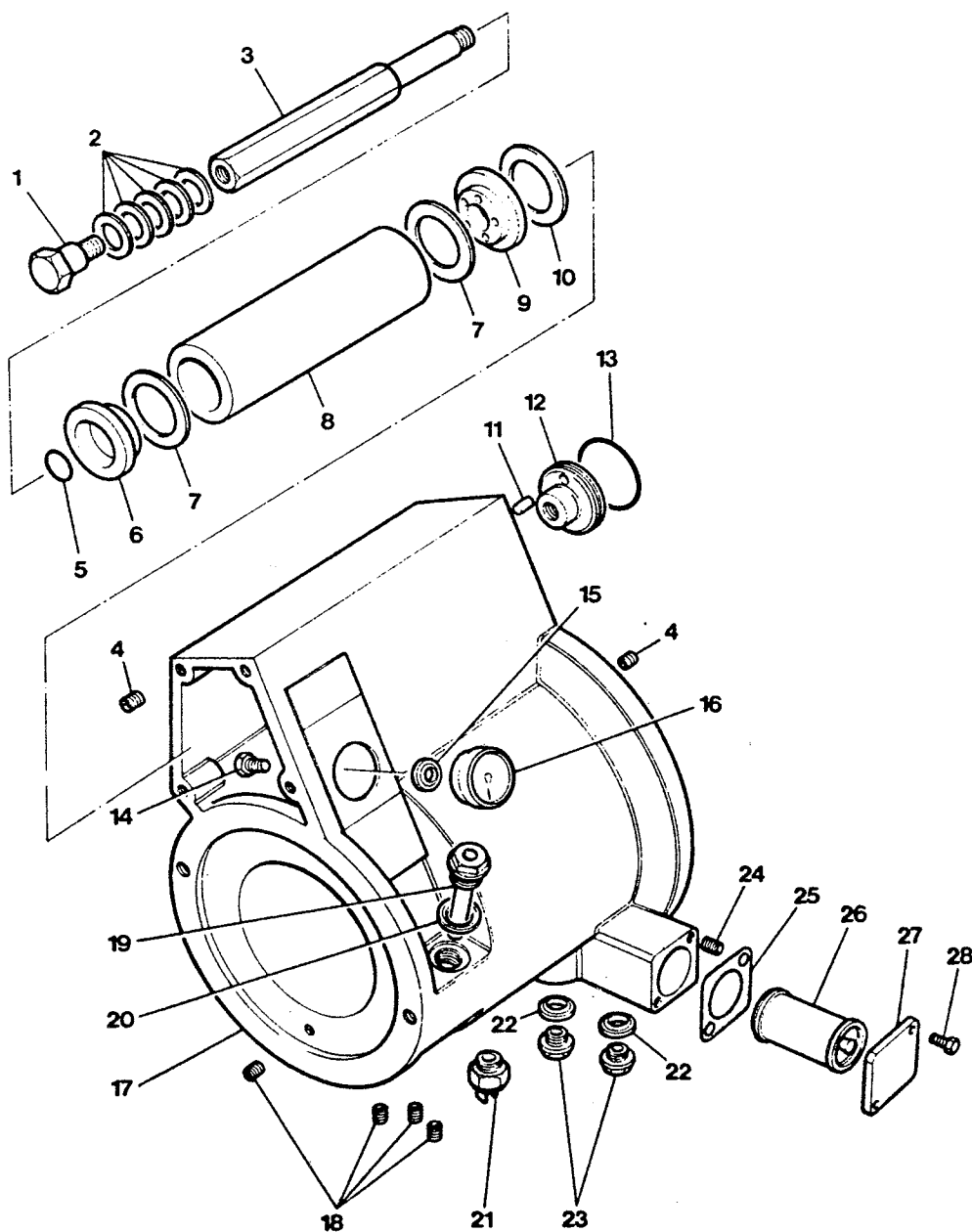
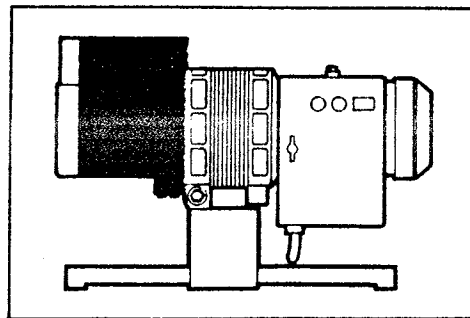
## Ordering Parts

TO AVOID DELAY, PLEASE QUOTE:-

1. Invoicing and shipping address
2. Compressor Model No.
3. Compressor serial No.
4. Page No.
5. Ref. No.
6. Part No.
7. Description
8. Quantity required

## Contents

Plate	Description	Page
A	Oil Chamber, Oil Separator, Oil Filter	2
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C	Safety Valve, Oil Return Valve, Servo Valve	6
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E	Oil Cooler, Thermal Bypass Valve	10
F	Drive Arrangement	13
G	Rotor Stator Unit - 7 bar	14
H	Rotor Stator Unit - 10 bar	17
J	Package Unit	19
K	Aftercooler	21
L,M	Starters	23





## OIL SEPARATOR, OIL CHAMBER, OIL FILTER

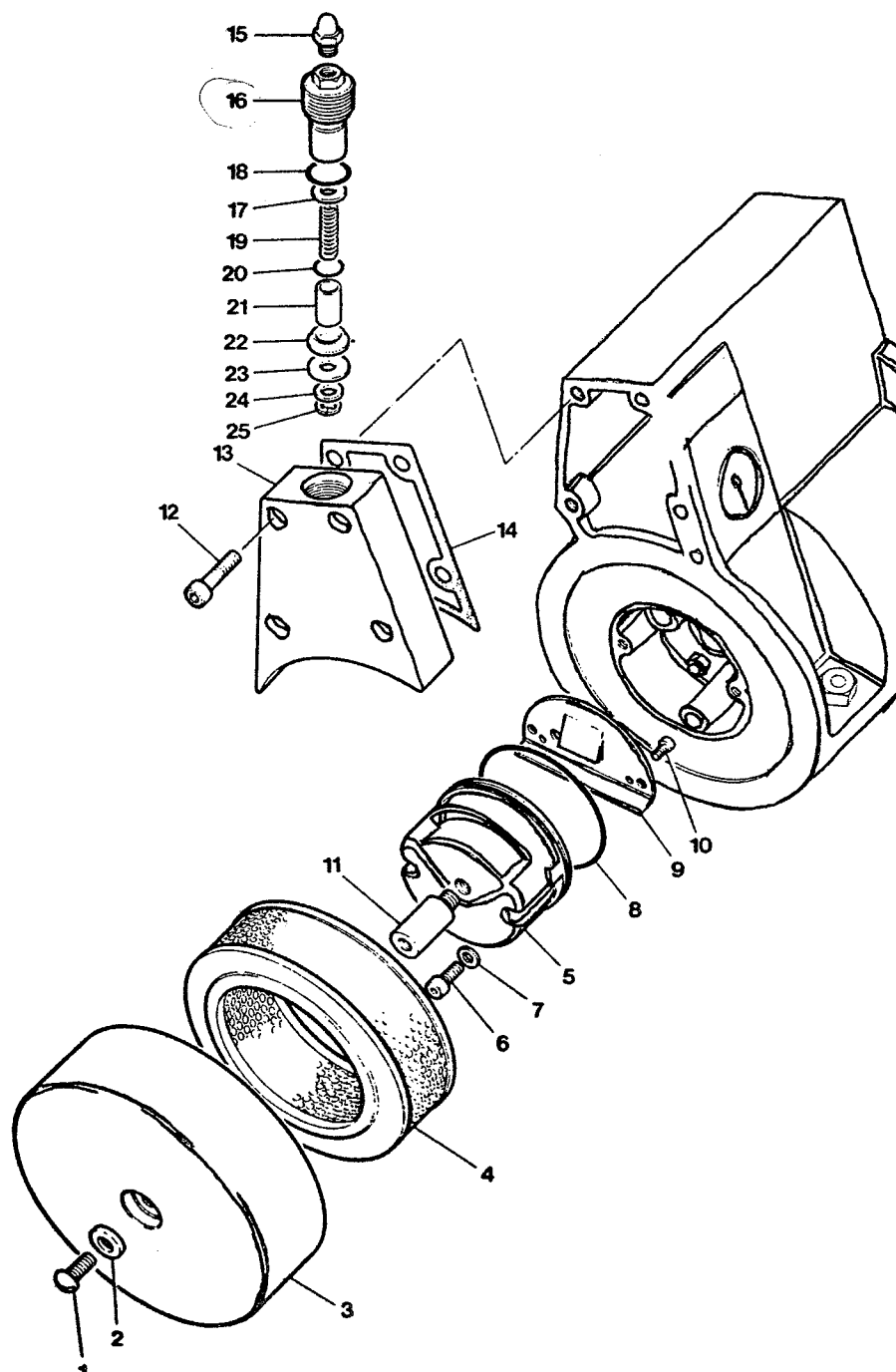
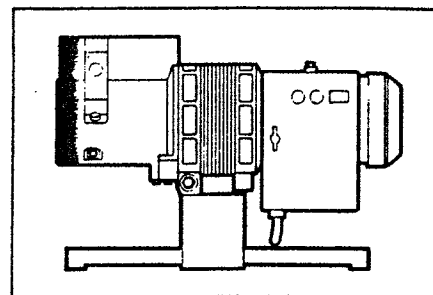
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ITEM REP Nr RIF. REF. REF.	PART No. : QTY. No PIECE/QUANTITE UNITAIRE TEILNUMMER/ANZAHL No. PARTE/QTA PIEZA NO; CANT. DETALJNUMBER/ANTAL				DESCRIPTION		
	23	CK 23	CK 43	43			
A1	3241	1	57709	57709	3241	1	Screw
A2	3226	5	57367	57367	3226	5	Washer
A3	3240	1	57710	5700658	3249	1	Rod
A4	MHC 10-20	12	56265	56265	MHC 10-20	12	Insert
A5	R2050	1	57369	57369	RO2050	1	'O' Ring
A6	3221	1	57368	57368	3221	1	Cap
A7	3227	2	57370	57370	3227	2	Gasket
A8	0803/1	1	57587	5700128	3407	1	Separator
A9	3230	1	57711	57711	3230	1	Support
A10	3287	1	57716	57716	3287	1	Gasket
A11	0102	1	56175	56175	0102	1	Dowel
A12	0402	1	56177	56177	0402	1	Plug
A13	9809	1	55814	55814	9809	1	'O' Ring
A14	0047	1	55763	55763	0047	1	Screw
A15	9604	1	55802	55802	9604	1	Seal
A16	0826	1A/R	57002	57002	0826	1A/R	Gauge (7 bar)
	3378	1A/R	5700656	5700656	3378	1A/R	Gauge (10 bar)
A17	0145	1	55780	55780	0145	1	Oil Chamber
A18	MG1706-10	4	56178	56178	MG1706-10	4	Grubscrew
A19	0066	1	56179	56179	0066	1	Plug 30-000051
A20	9619	1	5700074	5700074	9619 55806	1	Seal 30-000054
A21	3306	1	57714	57714	3306	1	Switch
A22	9613	2	58000	58000	9613	2	Seal
A23	0046/1	2	55762	55762	0046/1	2	Plug
A24	MHC6-15	2	56264	56264	MHC6-15	2	Insert
A25	9304	1	55792	55792	9304	1	Gasket
A26	0941/1	1	57715	57715	0941/1	1	Filter
A27	0942	1	56479	56479	0942	1	Cover
A28	MS106-16	2	56256	56256	MS106-16	2	Screw

**PARTS MODIFICATIONS**  
**MODIFICATIONS DES PIÈCES**  
**BAUTEILÄNDERUNGEN**  
**MODIFICHE PARTI**  
**CAMBIOS DE PIEZAS**  
**DETALJMODIFIKATIONER**

Serial No. Prefix Préfixe du N de Série Serien-Nr. Präfix No. Serie Prefisso Prefijo No. Serie Serienr prefix	Compressor(s) Compresseur Kompressor(en) Compressore(i) Compressor(es) Kompressor(er)	Ref. Réf Nr. Rif. Ref. Ref.	New Part(s) Nouvelle(s) Pièce(s) Neues Teil/Neue Teil Nuova(e) parte(i) Pieza(s) Nueva(s) Ny(a) detalj(er)	Old Part(s) Ancienne(s) Pièce(s) Altes Teil/Alte Teile Vecchia(e) parte(i) Pieza(s) Anterior(es) Gamml/La detalj(er)	Service Bulletin Bulletin de Service Wartungsbulletin Bollettino Servizio Boletín De Servicio Servicebulletin

B



ITEM REP Nr RIF. REF. REF.	PART No. : QTY. No PIECE/QUANTITE UNITAIRE TEILNUMMER/ANZAHL No. PARTE/QTA PIEZA NO; CANT. DETALJNUMMER/ANTAL						DESCRIPTION
	23		2 3		4 3		
B1	MS1310-20	1	5 6 1 9 1	5 6 1 9 1	MS1310-20	1	Screw
B2	8802	1	5 5 7 8 8	5 5 7 8 8	8802	1	Seal
B3	9018	1	5 6 1 9 2	5 7 0 0 6 6 1	9124	1	Cover
B4	0119	1	5 5 7 7 6		R010000-89	1	Filter
B5	3402	1	5 7 7 2 1	5 7 7 2 1	3402	1	Support
B6	MS706-20	2	5 5 8 2 7	5 5 8 2 7	MS706-20	2	Screw
B7	8814-6	2	5 6 4 7 8	5 6 4 7 8	8814-6	2	Washer
B8	9826	1	5 5 8 1 5	5 5 8 1 5	9826	1	'O' Ring
B9	3647	1	5 7 7 2 2	5 7 7 2 2	3647	1	Baffle
B10	MS705-10	2	5 7 7 2 3	5 5 7 2 3	MS705-10	2	Screw
B11	-			5 7 0 0 6 6 5	1363	1	Spacer
B12	MS710-45	4	5 5 8 3 0	5 7 0 0 6 6 3	MS710-100	4	Screw
B13	9018	1	5 6 1 9 2	5 7 0 0 6 6 8	1342/1	1	Cover
B14	9301	1	5 5 7 9 0	5 5 7 9 0	9301	1	Gasket
B15	1846	1	5 7 0 0 6 6 6	5 7 0 0 6 6 6	1846	1	Filter
B16	3015/1	1	5 7 0 0 6 6 9	5 7 0 0 6 6 9	3015/1	1	Body
B17	0099	A/R	5 5 7 7 4	5 5 7 7 4	0099	A/R	Shim
B18	9717	1	5 5 8 0 9	5 5 8 0 9	9717	1	'O' Ring
B19	9404	1	5 6 1 8 7	5 6 1 8 7	9404	1	Spring
B20	9711	1	5 5 8 0 8	5 5 8 0 8	9711	1	'O' Ring
B21	3342	1	5 7 0 0 6 7 0	5 7 0 0 6 7 0	3342	1	Piston
B22	0068	1	5 6 1 8 9	5 6 1 8 9	0068	1	Valve
B23	0071	1	5 5 7 7 0	5 5 7 7 0	0071	1	Seal
B24	W3	1	5 5 8 3 3	5 5 8 3 3	W3	1	Washer
B25	MCE4.8	1	5 5 8 1 9	5 5 8 1 9	MCE4.8	1	Circlip
			5 7 8 7 6	5 7 8 7 6			MPV ASSY

## PARTS MODIFICATIONS

MODIFICATIONS DES PIÈCES

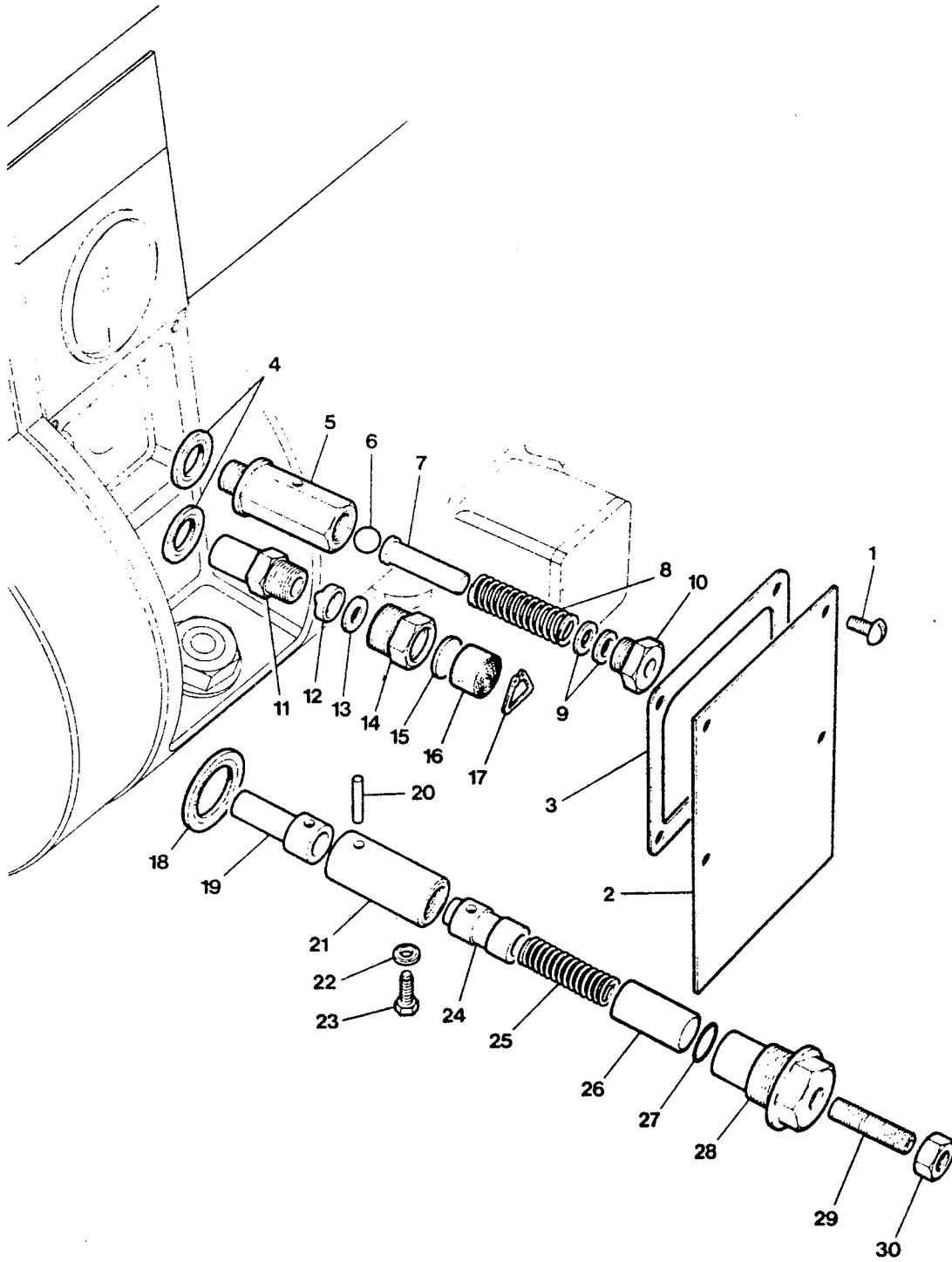
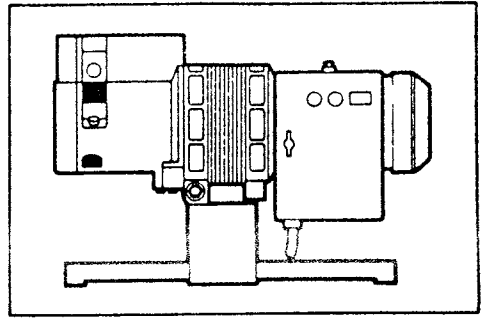
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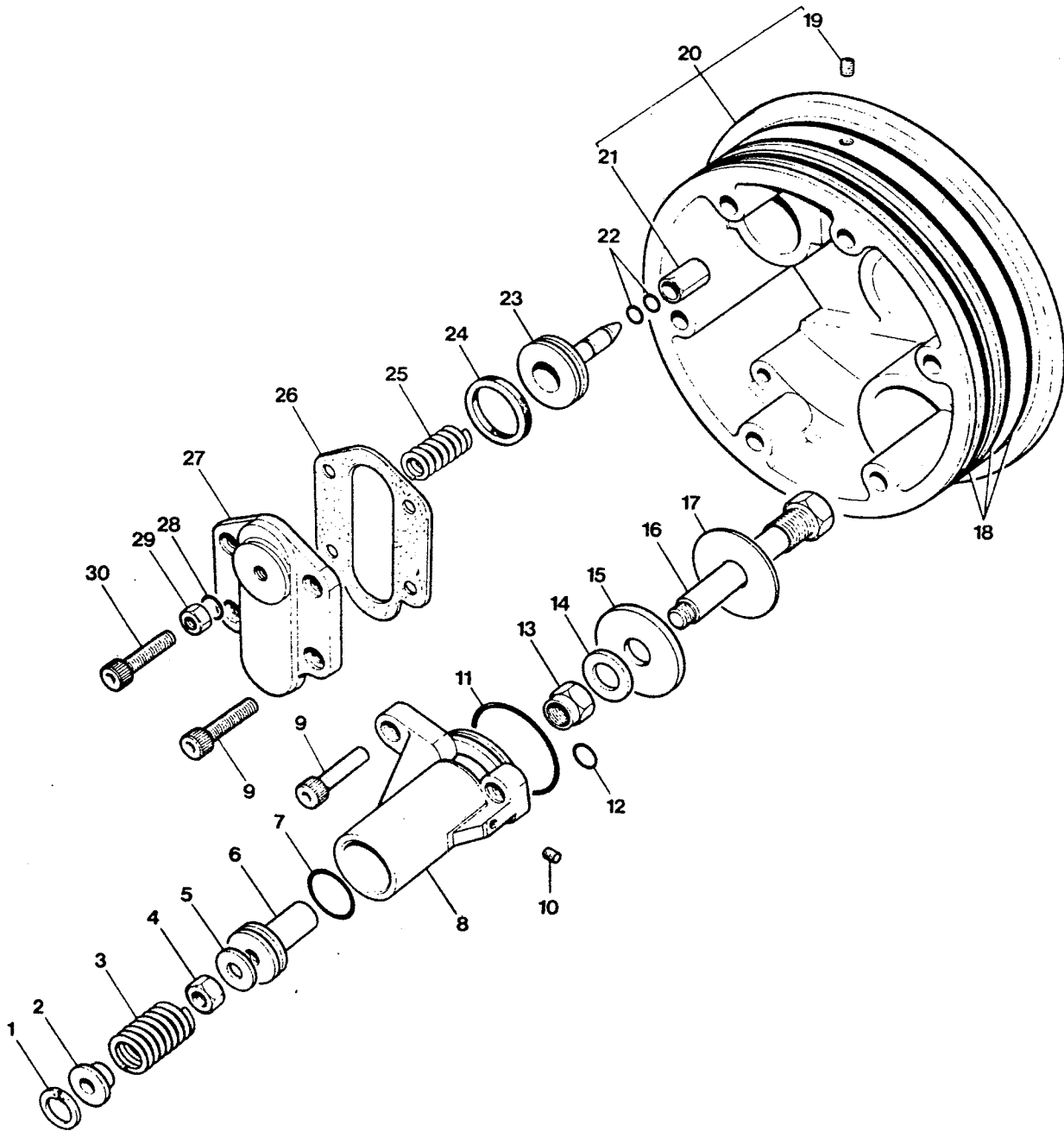
Serial No. Prefix Préfixe du N de Série Serien-Nr. Präfix No. Serie Prefisso Prefijo No. Serie Serienr prefix	Compressor(s) Compresseur Kompressor(en) Compressore(i) Compresor(es) Kompressor(er)	Ref. Réf Nr. Rif. Ref. Ref.	New Part(s) Nouvelle(s) Pièce(s) Neues Teil/Neue Teil Nuova(e) parte(i) Pieza(s) Nueva(s) Ny(a) detalj(er)	Old Part(s) Ancienne(s) Pièce(s) Altes Teil/Alte Teile Vecchia(e) parte(i) Pieza(s) Anterior(es) Gamml/La detalj(er)	Service Bulletin Bulletin de Service Wartungsbulletin Bollettino Servizio Boletín De Servicio Servicebulletin



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	23	23	43	43			
C1	MS2104-10	4	56200	56200	MS2104-10	4	Screw
C2	50631	1	5700671	5700671	50631	1	Plate
C3	9306	1	55799	55799	9306	1	Gasket
C4	9613	2	58000	58000	9613	2	Seal
C5	0863	1	56484	56484	0863	1	Body
C6	MB10	1	55818	55818	MB10	1	Ball
C7	0031	1			0031	1	Piston
C8	9403	1A/R	55800	55800	9403	1A/R	Spring (7 bar)
C8	9407	1A/R	5700672	5700672	9407	1A/R	Spring (10 bar)
C9	0099	A/R	55774	55774	0099	A/R	Shim
C10	0032	1	56196	56196	0032	1	Plug
C11	1846	1			1846	1	Filter
C12	1731	1			1731	1	Disc
C13	1730	1			1730	1	Plate (7 bar)
C13	3720	1			3720	1	Plate (10 bar)
C14	1727	1	56298	56298	1727	1	Body
C15	3052	1			3052	1	Disc
C16	3051	1			3051	1	Filter
C17	56380	1			56380	1	Clip
C18	9619	1	5700074	5700074	9619	1	Seal
C19	0087	1	56207	56207	0087	1	Filter
C20	3291	1	55921	55921	3291	1	Pin
C21	0029	1	56206	56206	0029	1	Sleeve
C22	9604	1	55802	55802	9604	1	Seal
C23	0101	1			0101	1	Screw
C24	R0800-42	1	55117	55117	R0800-42	1	Piston
C25	9401	1	56205	56205	9401	1	Spring
C26	0077	1			0077	1	Carrier
C27	9712	1	55805	55805	9712	1	'O' Ring
C28	0076	1			0076	1	Plug
C29	MG8-35	1	5700675	5700675	MG8-35	1	Screw
C30	MN208	1	56201	56201	MN208	1	Nut
	0120/18	1	5700741	5700741	0120/1B		SAFETY VLV AY (10 BAR)
	0120/1A		5700742	5700742	0120/1A		.. .. (7 BAR)
			5700475	5700475			SERVO VALVE AY

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	23		2 3		4 3		
D1	MCI 7/8	1	5 6 2 1 4	5 6 2 1 4	MCI 7/8	1	Circlip
D2	0191	1	5 6 2 1 5	5 6 2 1 5	0191	1	Cap
D3	9402	1	5 6 2 1 6	5 6 2 1 6	9402	1	Spring
D4	3656	1	5 7 7 3 5	5 7 7 3 5	3656	1	Locknut
D5	MW5	1	5 5 8 3 3	5 5 8 3 3	MW5	1	Washer
D6	0195	1	5 6 2 1 8	5 6 2 1 8	0195	1	Piston
D7	9754	1	5 6 0 1 6	5 6 0 1 6	9754	1	'O' Ring
D8	0192	1	5 6 2 2 1	5 6 2 2 1	0192	1	Body
D9	MS706-16	6	5 6 2 2 0	5 6 2 2 0	MS706-16	6	Screw
D10	MG1706-6	1	5 6 2 1 2	5 6 2 1 2	MG1706-6	1	Grubscrew
D11	9804	1	5 5 8 1 3	5 5 8 1 3	9804	1	'O' Ring
D12	9704	1	5 5 8 0 7	5 5 8 0 7	9704	1	'O' Ring
D13	3655	1	5 7 7 3 6	5 7 7 3 6	3655	1	Locknut
D14	MW10	1	5 5 8 3 4	5 5 8 3 4	MW10	1	Washer
D15	0053/1	1	5 5 7 6 6	5 5 7 6 6	0053/1	1	Seal
D16	51028	1	5 7 7 3 8	5 7 7 3 8	51028	1	Stem
D17	51029	1	5 7 7 3 9	5 7 7 3 9	51029	1	Washer
D18	9826	1	5 5 8 1 5	5 5 8 1 5	9826	1	'O' Ring
D19	MG706-6	1	5 6 2 1 2	5 6 2 1 2	MG706-6	1	Grubscrew
D20	3717	1	5 7 0 0 6 7 6	5 7 0 0 6 7 7	30696	1	End Cover
D21	R020000-80	1	5 7 7 4 1	5 7 7 4 1	R020000-80	1	Bush
D22	52109	2	5 7 7 4 2	5 7 7 4 2	52109	2	'O' Ring
D23	3657	1	5 7 7 4 3	5 7 7 4 3	3657	1	Stem
D24	R020000-226	1	5 7 7 4 4	5 7 7 4 4	R020000-226	1	Seal
D25	52028	1	5 7 7 4 5	5 7 7 4 5	52028	1	Spring
D26	3652	1	5 7 7 4 6	5 7 7 4 6	3652	1	Gasket
D27	3651	1	5 7 7 4 7	5 7 7 4 7	3651	1	Cover
D28	W4-1	1	5 5 4 4 5	5 5 4 4 5	W4-1	1	Seal
D29	MN106	1	5 7 7 4 9	5 7 7 4 9	MN106	1	Nut
D30	MS706-35	1	5 7 7 5 0	5 7 7 5 0	MS706-35	1	Screw

## PARTS MODIFICATIONS

MODIFICATIONS DES PIÈCES

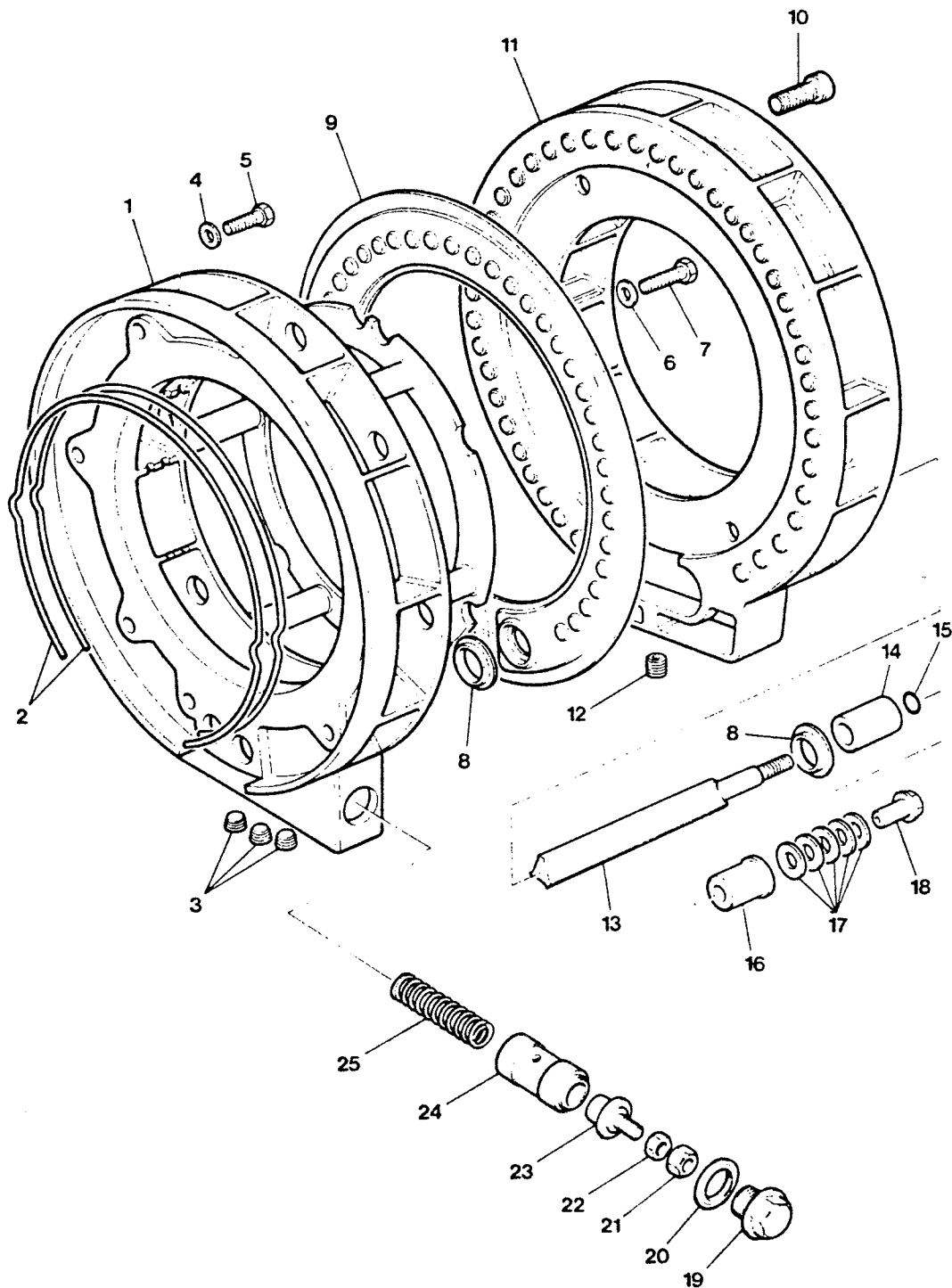
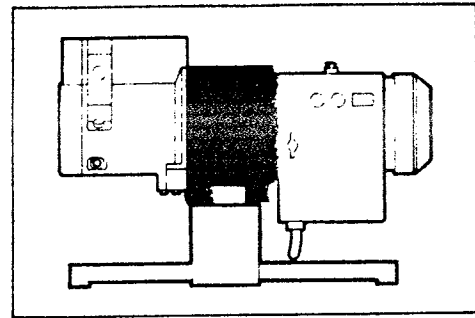
BAUTEILÄNDERUNGEN

MODIFICHE PARTI

CAMBIO DE PIEZAS

DETALJMODIFIKATIONER

Serial No. Prefix Préfixe du N de Série Serien-Nr. Präfix No. Serie Prefisso Prefijo No. Serie Serienr prefix	Compressor(s) Compresseur Kompressor(en) Compressore(i) Compresor(es) Kompressor(er)	Ref. Réf. Nr. Rif. Ref. Ref.	New Part(s) Nouvelle(s) Pièce(s) Neues Teil/Neue Teil Nuova(e) parte(i) Pieza(s) Nueva(s) Ny(a) detalj(er)	Old Part(s) Ancienne(s) Pièce(s) Altes Teil/Alte Teile Vecchia(e) parte(i) Pieza(s) Anterior(es) Gamml/La detalj(er)	Service Bulletin Bulletin de Service Wartungsbulletin Bollettino Servizio Boletín De Servicio Servicebulletin

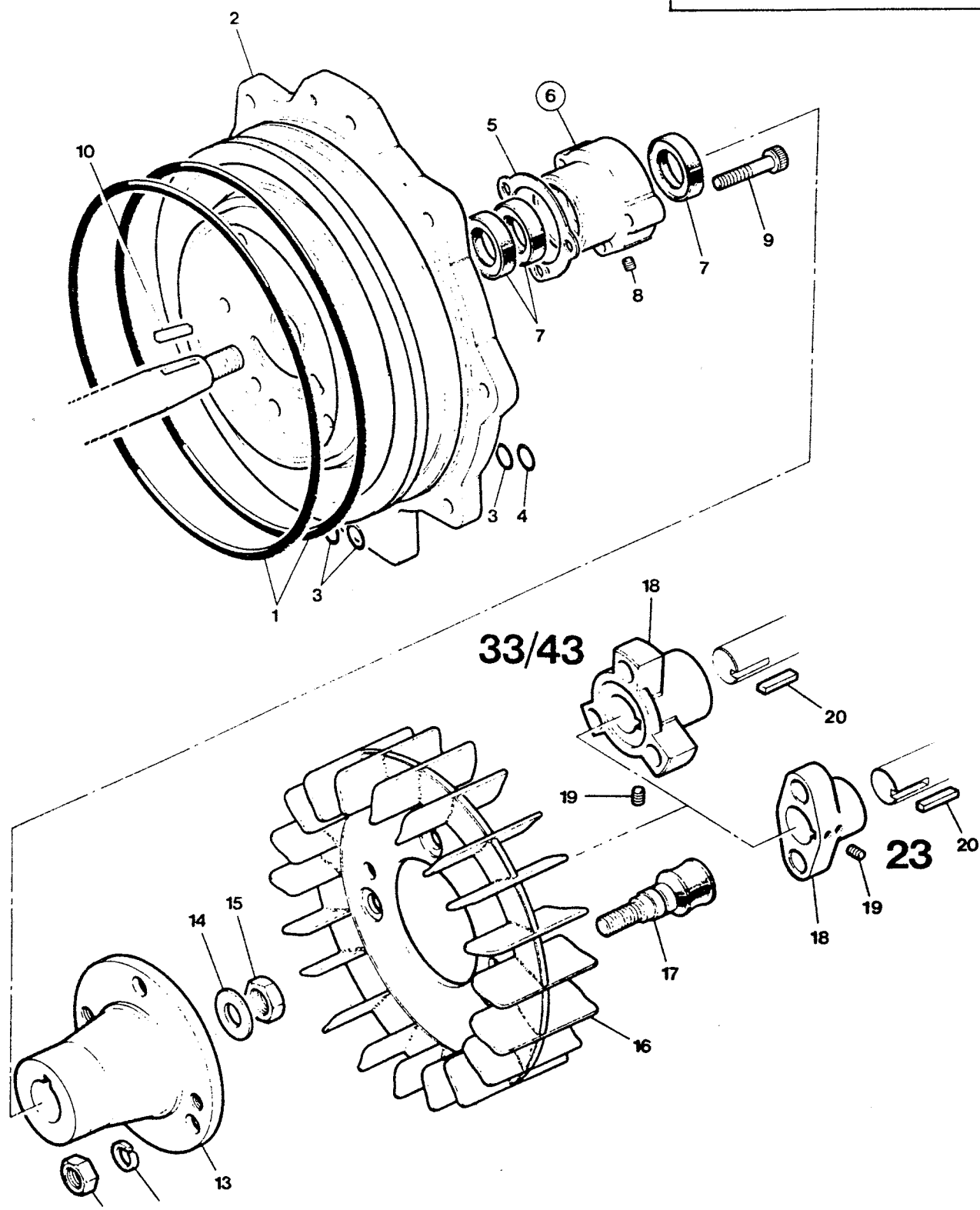
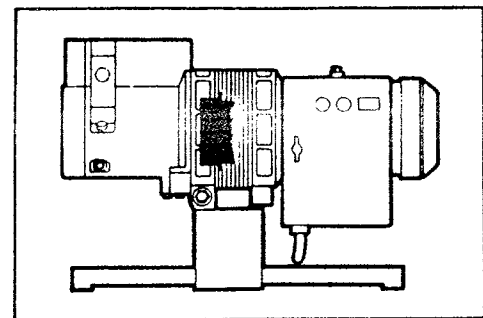




ITEM REP Nr RIF. REF. REF.	PART No. : QTY. No PIECE/QUANTITE UNITAIRE TEILNUMMER/ANZAHL No. PARTE/QTA PIEZA NO: CANT. DETALJNUMMER/ANTAL						DESCRIPTION
	23		23	43	43		
E1	3357	1	57767	5700679	3351	1	Flange
E2	0822	2	56778	56778	0822	2	Ring
E3	TP3	3	57768	57768	TP3	3	Plug
E4	MW6	1	56263	56263	MW6	1	Washer
E5	MB106-16	1	56256	56256	MB106-16	1	Bolt
E6	MW10	8	55834	55834	MW10	8	Washer
E7	MS110-35	8	56255	56255	MS110-35	8	Screw
E8	3286	34	57627	57627	3286	62	Washer
E9	3283	15	57694	57694	3283	30	Plate
E10	MS710-50	6	57765	57765	MS710-50	6	Screw
E11	0228/1	1	5700680	5700681	3355	1	Flange
E12	-			5700682	MHG12-18	1	Insert
E13	3268	2	57693	5700683	3274	2	Bolt
E14	3269	2	57696	57696	3269	2	Sleeve
E15	9709	2	57678	57678	9709	2	'O' Ring
E16	3270	2	57697	57697	3270	2	Spacer
E17	3266	10	57367	57367	3266	10	Washer
E18	3271	2	57695	57695	3271	2	Nut
E19	3554	1	57774	57774	3554	1	Plug
E20	50405	1	57772	57772	50405	1	Seal
E21	1854/1	1		5700685	1854/1	1	Adjuster
E22	MN204	1	57776	57776	MN204	1	Nut
E23	3515/C	1	57777	57777	3515/C	1	Thermostat
E24	50096	1	57778	57778	50096	1	Piston
E25	9419	1	57779	57779	9419	1	Spring

**PARTS MODIFICATIONS**  
MODIFICATIONS DES PIÈCES  
BAUTEILÄNDERUNGEN  
MODIFICHE PARTI  
CAMBIOS DE PIEZAS  
DETALJMODIFIKATIONER

Serial No. Prefix Préfixe du N de Série Serien-Nr. Präfix No. Serie Prefisso Prefijo No. Serie Serienr prefix	Compressor(s) Compresseur Kompressor(en) Compressore(i) Compresor(es) Kompressor(er)	Ref. Réf Nr. Rif. Ref. Ref.	New Part(s) Nouvelle(s) Pièce(s) Neues Teil/Neue Teil Nuova(e) parte(i) Pieza(s) Nueva(s) Ny(a) detalj(er)	Old Part(s) Ancienne(s) Pièce(s) Altes Teil/Alte Teile Vecchia(e) parte(i) Pieza(s) Anterior(es) Gamml/La detalj(er)	Service Bulletin Bulletin de Service Wartungsbulletin Bollettino Servizio Boletín De Servicio Servicebulletin



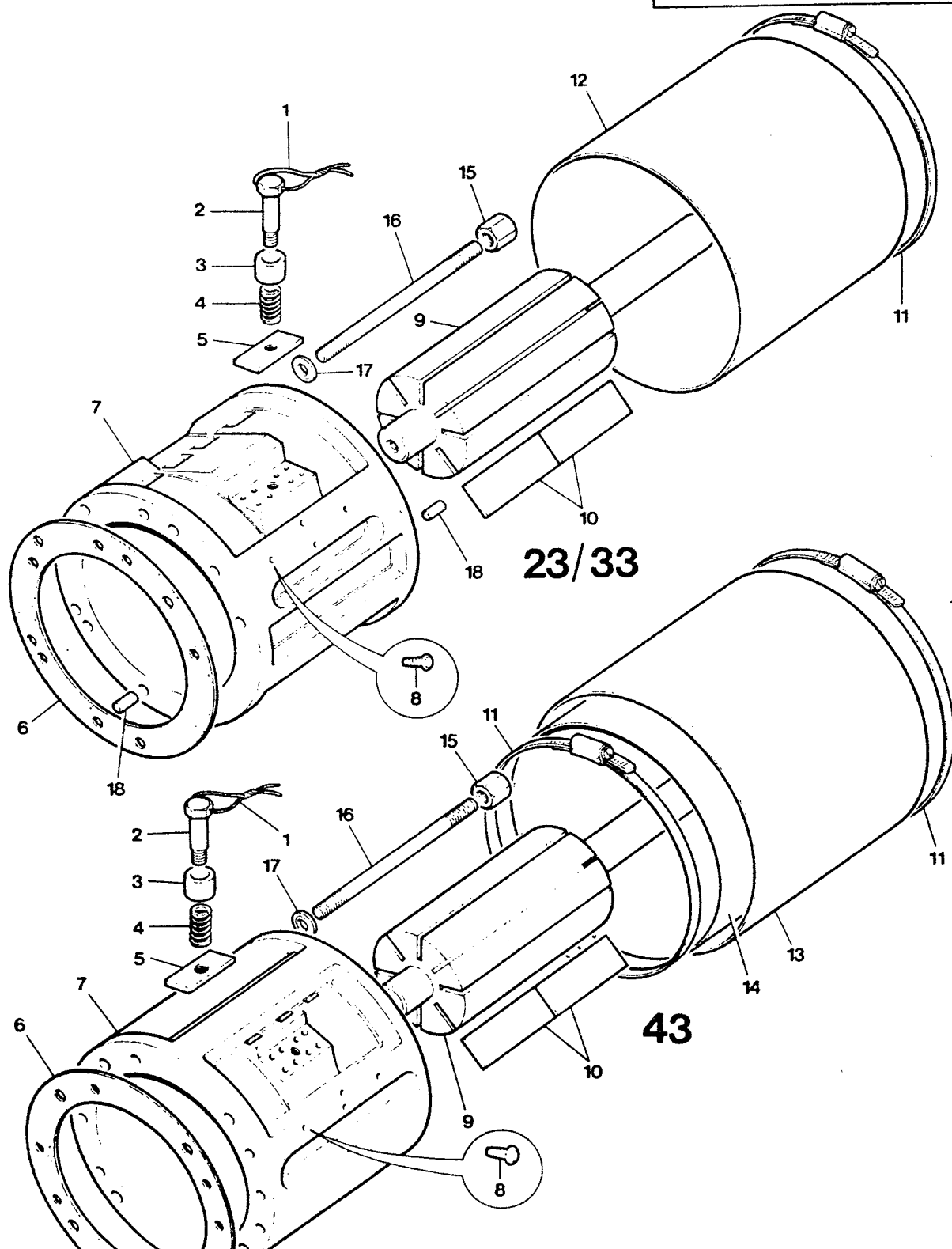
**F**

# DRIVE ARRANGEMENT

ITEM REP Nr RIF. REF. REF.	PART No. : QTY. No PIECE/QUANTITE UNITAIRE TEILNUMMER/ANZAHL No. PARTE/QTA PIEZA NO; CANT. DETALJNUMMER/ANTAL						DESCRIPTION
	23		23		43		
F1	9896	2	55816	55816	9896	2	'O' Ring
F2	3665	1	57759	5700686	1348/1	1	End Cover
F3	8810	3	56246	56246	8810	3	Seal
F4	8815	1	57760	57760	8815	1	Seal
F5	9311	1	57678	57678	9311	1	Gasket
F6	3666	1	57761	5700687	0804/1	1	Housing Assembly
F7	51064	3	56017		50692	3	Seal
F8	MG1706-6	1	56490	56490	MG1706-6	1	Grubscrew
F9	MS706-20	2	55827	55827	MS706-20	3	Screw
F10	53048	1	57908	57908	53048	1	Key
F11	MN112	2	56289	56289	MN112	3	Nut
F12	8813	2	57762	57762	8813	3	Washer
F13	53223	1	5700688	57907	53190	1	Coupling
F14	MW16	1	5700266	5700689	MW20	1	Washer
F15	53324	1	5700690	5700691	53106	1	Nut
F16	53275	1	5700692	5700693	53366	1	Impeller
F17	0616	2	57764	57764	0616	3	Drive Pin
F18	1621	1	57787	5700694	52034	1	Coupling
F19	MG708-8	2	57788	57000	MG710-10	2	Grubscrew
F20	0144	1	57789	5700695	0935	1	Key

## PARTS MODIFICATIONS MODIFICATIONS DES PIÈCES BAUTEILÄNDERUNGEN MODIFICHE PARTI CAMBIOS DE PIEZAS DETALJMODIFIKATIONER

Serial No. Prefix Préfixe du N de Série Serien-Nr. Präfix No. Serie Prefisso Prefijo No. Serie Serienr prefix	Compressor(s) Compresseur Kompressor(en) Compressore(i) Compresor(es) Kompressor(er)	Ref. Réf. Nr. Rif. Ref. Ref.	New Part(s) Nouvelle(s) Pièce(s) Neues Teil/Neue Teil Nuova(e) parte(i) Pieza(s) Nueva(s) Ny(a) detalj(er)	Old Part(s) Ancienne(s) Pièce(s) Altes Teil/Alte Teile Vecchia(e) parte(i) Pieza(s) Anterior(es) Gammal/La detalj(er)	Service Bulletin Bulletin de Service Wartungsbulletin Bollettino Servizio Boletín De Servicio Servicebulletin

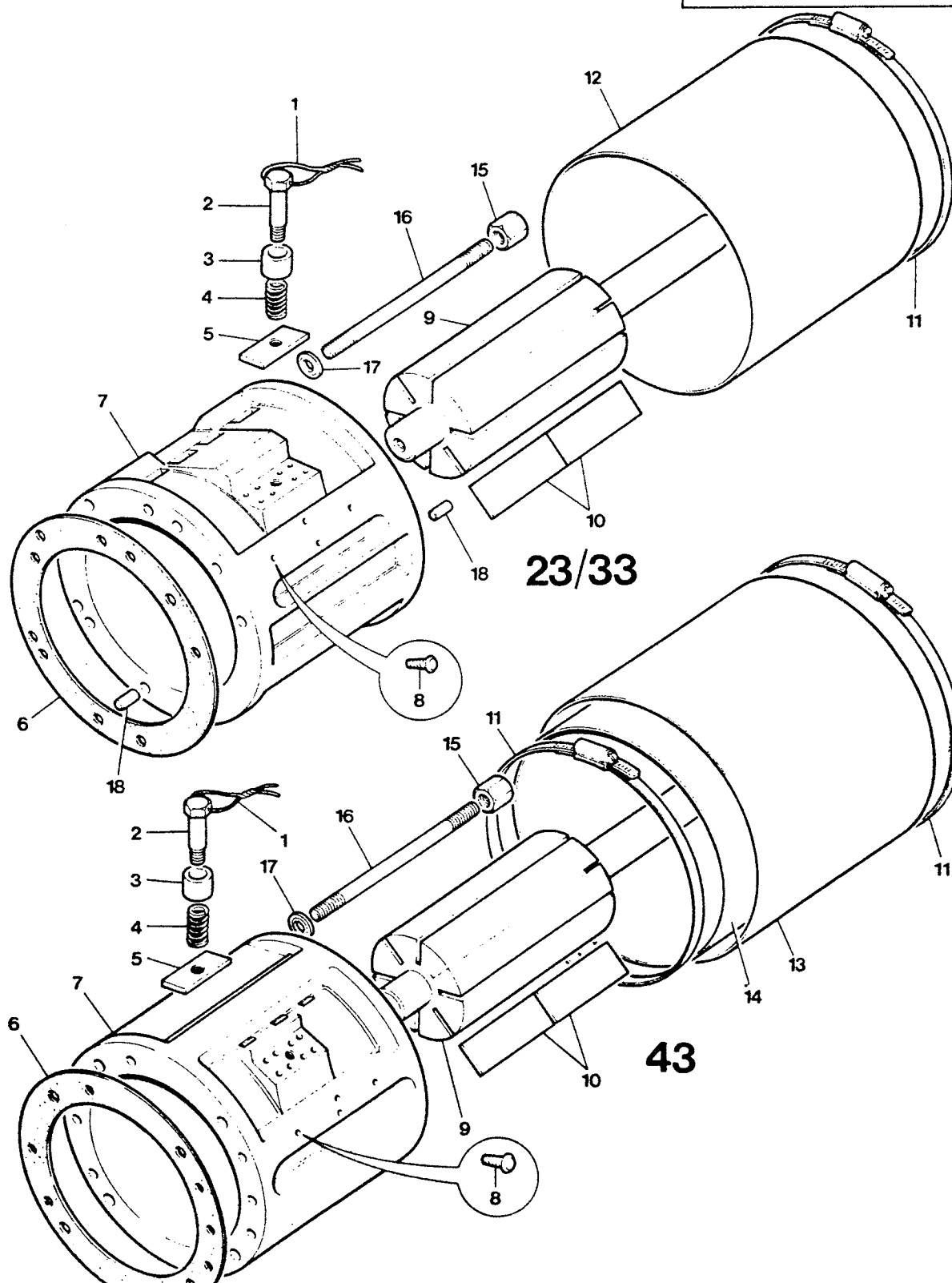
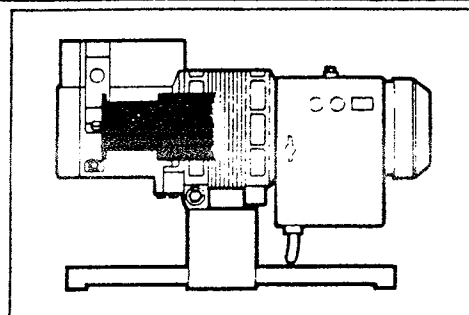


**G****ROTOR STATOR UNIT 7 BAR**

ITEM REP Nr RIF. REF. REF.	PART No. : QTY. No PIECE/QUANTITE UNITAIRE TEILNUMMER/ANZAHL No. PARTE/QTA PIEZA NO; CANT. DETALJNUMBER/ANTAL						DESCRIPTION
	23		23		43		
G1	ST10024	1	56096	56096	ST10024	2	Wire
G2	R04000-192B	1	55629	55629	R04000-192B	2	Screw
G3	R08000-131	1	55249	55249	R08000-131	2	Collar
G4	PE338	1	55416	55416	PE338	2	Spring
G5	R0400-191B	1	55211	55211	R0400-191B	2	Valve
G6	52220 A	A/R		5700040	3664 A	53043A/R	Joint (.03mm)
	52220 B	A/R			3664 B	A/R	Joint (.04mm)
	52220 C	A/R	57753	56493	3664 C	A/R	Joint (.05mm)
	52220 D	A/R	57754	56494	3664 D	A/R	Joint (.08mm)
	52220 E	A/R			3664 E	A/R	Joint (.10mm)
	52220 F	A/R			3664 F	A/R	Joint (.13mm)
G7 *	-3668 A 30692	1	5700747	5700747	30692	1	Stator Assembly
G8	HD71520-C2	4	56077	56077	HD71520-C2	4	Rivet
G9	52024	1	57757	5700746	52037 53195	1	Rotor
G10	0594/1	16	57758	5700749	1354	16	Blade
G11	0067	1	56230	56230	0067	2	Clip
G12	0020	1	56231	56231			Cowl
G13					9126	1	Cowl
G14					9127	1	Cowl
G15	0187	6	56232	56232	0187	6	Nut
G16	0186	6	56233		0780	6	Stud
G17	9605	6	55803	55803	9605	6	Seal
G18	0037	2	56234	56234			Dowel
*		1	5700748	5700748	52493		STATOR

**PARTS MODIFICATIONS**  
**MODIFICATIONS DES PIÈCES**  
**BAUTEILÄNDERUNGEN**  
**MODIFICHE PARTI**  
**CAMBIOS DE PIEZAS**  
**DETALJMODIFIKATIONER**

Serial No. Prefix Préfixe du N de Série Serien-Nr. Präfix No. Serie Préfixo Prefijo No. Serie Serienr prefix	Compressor(s) Compresseur Kompressor(en) Compressore(i) Compresor(es) Kompressor(er)	Ref. Réf. Nr. Rif. Ref. Ref.	New Part(s) Nouvelle(s) Pièce(s) Neues Teil/Neue Teil Nuova(e) parte(i) Pieza(s) Nueva(s) Ny(a) detalj(er)	Old Part(s) Ancienne(s) Pièce(s) Altes Teil/Alte Teile Vecchia(e) parte(i) Pieza(s) Anterior(es) Gammal/La detalj(er)	Service Bulletin Bulletin de Service Wartungsbulletin Bollettino Servizio Boletín De Servicio Servicebulletin



ITEM REP Nr RIF. REF. REF.	PART No. : QTY. No PIECE/QUANTITE UNITAIRE TEILNUMMER/ANZAHL No. PARTE/QTA PIEZA NO; CANT. DETALJNUMBER/ANTAL				DESCRIPTION
	23	23	43	43	
H1	ST10024 1	56096	56096	ST10024 2	Wire
H2	R04000-192B 1	55629	55629	R04000-192B 2	Screw
H3	R08000-131 1	55299	55299	R08000-131 2	Collar
H4	PE338 1	55416	55416	PE338 2	Spring
H5	R0400-191B 1	55211	5700627	R04000-191B 2	Valve
H6	52220 A A/R		5700040	3664-A 53043A/R	Joint (.03mm)
	52220 B A/R			3664 B A/R	Joint (.04mm)
	52220 C A/R	57753	56493	3664 C A/R	Joint (.05mm)
	52220 D A/R	57754	56494	3664 D A/R	Joint (.08mm)
	52220 E A/R			3664 E A/R	Joint (.10mm)
	52220 F A/R			3664 F A/R	Joint (.13mm)
H7 *	<del>3660-B</del> 52494 1			3662 B 1	Stator Assembly
H8	HD71520-C2 4	56077	56077	HD71520-C2 4	Rivet
H9	52024 1	57757	5700746	62037 53195 1	Rotor
H10	<del>3390</del> 52494 16	5700745	5700745	3377 16	Blade
H11	0067 1	56230	56230	0067 2	Clip
H12	0020 1	56231	56231		Clip
H13				9126 1	Cowl
H14				9127 1	Cowl
H15	0187 6	56232	56232	0187 6	Nut
H16	0186 6	56233	56233	0780 6	Stud
H17	9605 6	55803	55803	9605 6	Seal
H18	0037 2	56234	56234		Dowel
	* 52494	5700744	5700744	52494	STATOR
	*				

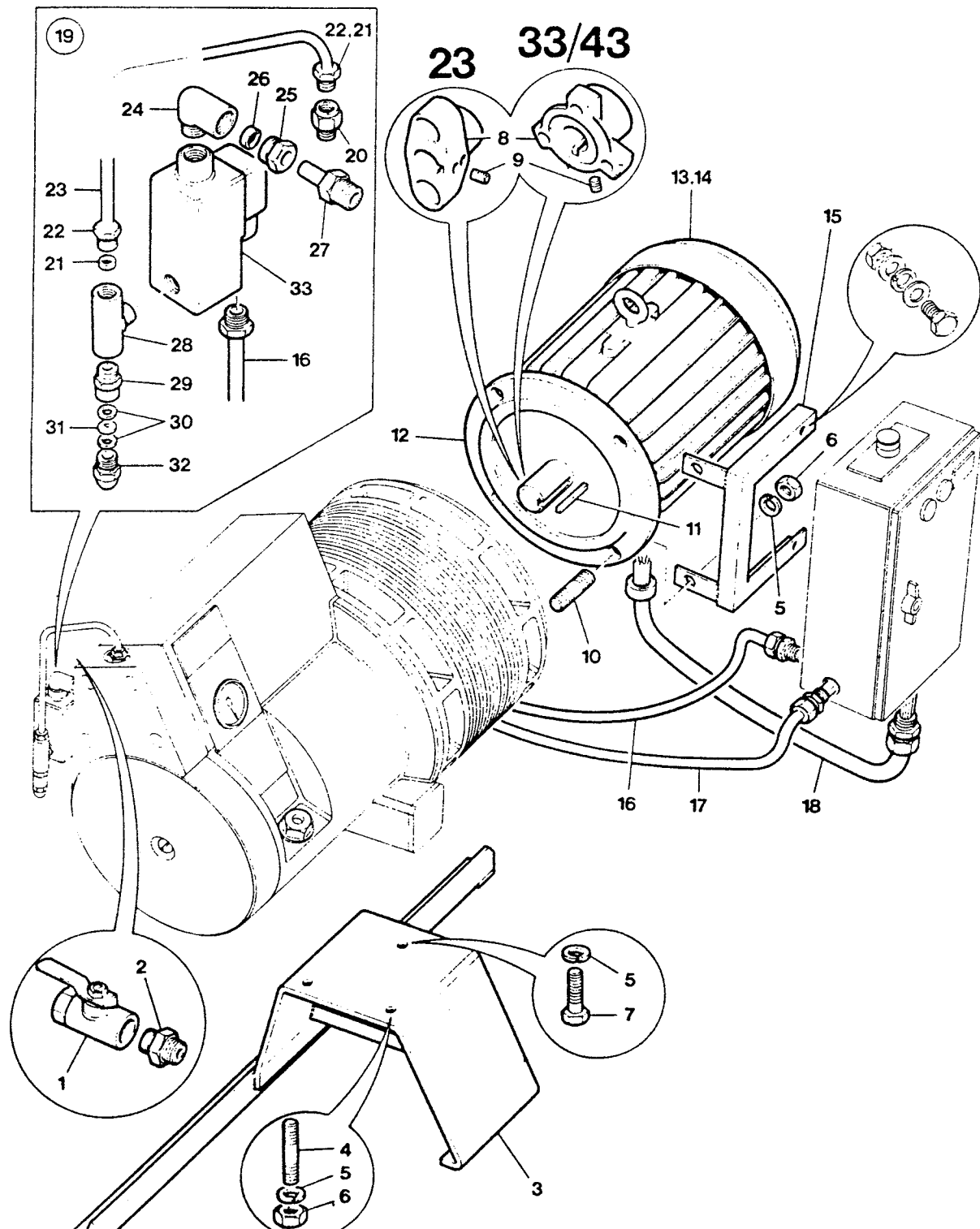
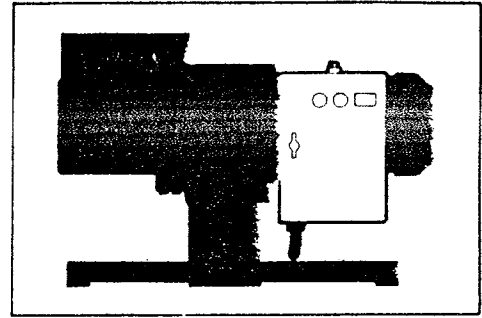
**PARTS MODIFICATIONS**  
MODIFICATIONS DES PIÈCES  
BAUTEILÄNDERUNGEN  
MODIFICHE PARTI  
CAMBIOS DE PIEZAS  
DETALJMODIFIKATIONER

Serial No. Prefix Préfixe du N de Série Serien-Nr. Präfix No. Serie Prefisso Prefijo No. Serie Serienr prefix	Compressor(s) Compresseur Kompressor(en) Compressore(i) Compressor(es) Kompressor(er)	Ref. Réf Nr. Rif. Ref. Ref.	New Part(s) Nouvelle(s) Pièce(s) Neues Teil/Neue Teil Nuova(e) parte(i) Pieza(s) Nueva(s) Ny(a) detalj(er)	Old Part(s) Ancienne(s) Pièce(s) Altes Teil/Alte Teile Vecchia(e) parte(i) Pieza(s) Anterior(es) Gamml/La detalj(er)	Service Bulletin Bulletin de Service Wartungsbulletin Bollettino Servizio Boletín De Servicio Servicebulletin

**PACKAGE UNIT**  
**GROUPE COMPLET**  
**PAKET**  
**COMPLESSIVO**  
**UNIDAD EN CONJUNTO**  
**FORPACKNINGSENHET**







J

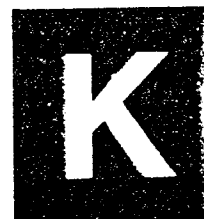
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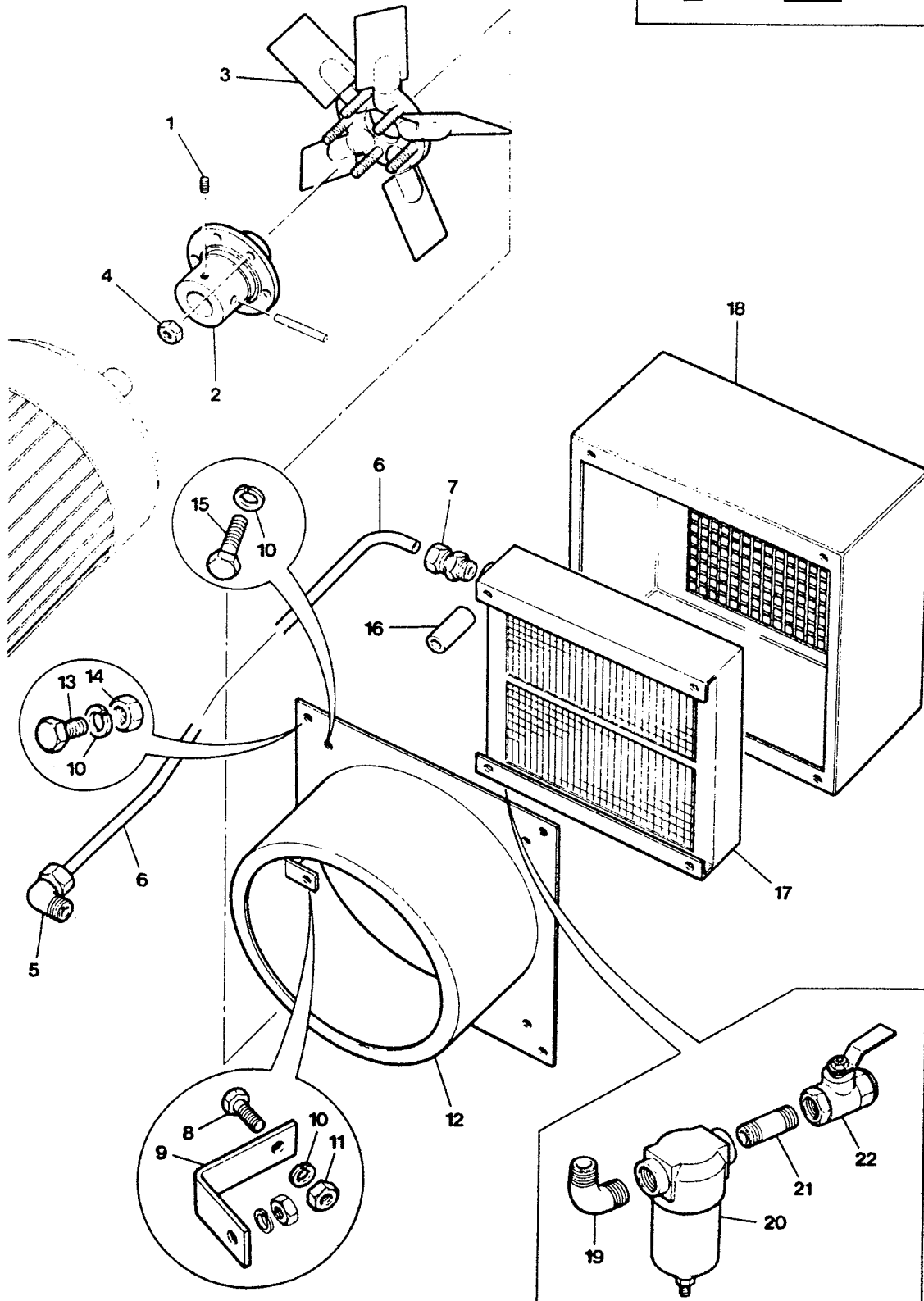
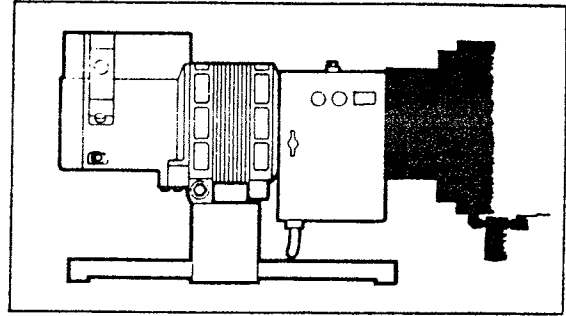
ITEM REP Nr RIF. REF. REF.	PART No. : QTY. No PIECE/QUANTITE UNITAIRE TEILNUMMER/ANZAHL No. PARTE/QTÀ PIEZA NO; CANT. DETALJNUMMER/ANTAL						DESCRIPTION
	23		2 3		4 3		
					43		
J1	50761	1	57781	5700696	PE368	1	Valve
J2	E42	1	57782	56481	0788	1	Adapter
J3	53199	1	5700697	5700698	53200	1	Stand
J4	50705	2	57785	57785	50705	2	Stud
J5	8813	6	57762	57762	8813	7	Washer
J6	MN112	6	56289	56289	MN112	6	Nut
J7				57109	MS112-30	1	Screw
J8	1621	1	57787	5700694	52034	1	Coupling
J9	MG708-8	2	57788	57000	MG710-10	2	Grubscrew
J10	MST12-60B	1	5700288	5700288	MST12-60B	1	Stud
J11	0144	1	57789	5700695	0935	1	Key
J12	52391/1-10	1			52393/1-10	1	Motor
J13	52575	1	5700699	5700700	52576	1	Cowl
J14	52569	4	5700701	5700702	52470	4	Pad
J15	52624	1	5700703	5700704	52528	1	Support
J16	31326	1	5700705	5700705	31326	1	Cables
J17	30136	1	5700706	5700706	30136	1	Cables
J18	31204	1A/R	5700707	5700707			Cables (Direct on Line)
J18	31205	1A/R	5700708	5700709	31208	1A/R	Cables (Star Delta)
J19	31288	1			31288	1	Solenoid Assembly
J20	50460	1			50460	1	Adapter
J21	50457	2			50457	2	Sleeve
J22	50458	2			50458	2	Nut
J23	53490	1			53490	1	Pipe
J24	1499	1			1499	1	Elbow
J25	1068	1			1068	1	Nut
J26	1069	1			1069	1	Sleeve
J27	50463	1			50463	1	Adapter
J28	50462	1			50462	1	Tee
J29	50461	1			50461	1	Adapter
J30	W5-2	2	55448	55448	W5-2	2	Seal
J31	1730	1	55448	55448	1730	1	Plate
J32	1846	1	57361	57361	1846	1	Filter
J33	53495	1	5700710	5700710	53495	1	Solenoid

**PARTS MODIFICATIONS**  
**MODIFICATIONS DES PIÈCES**  
**BAUTEILÄNDERUNGEN**  
**MODIFICHE PARTI**  
**CAMBIO DE PIEZAS**  
**DETALJMODIFIKATIONER**

Serial No. Suffix Suffixe du N de Série Serien-Nr. Suffix No. Serie Suffixo Sufijo No. Serie Serienr Suffix	Compressor(s) Compresseur Kompressor(en) Compressore(i) Compressor(es) Kompressor(er)	Ref. Réf. Nr. Rif. Ref. Ref.	New Part(s) Nouvelle(s) Pièce(s) Neues Teil/Neue Teil Nuova(e) parte(i) Pieza(s) Nueva(s) Ny(a) detalj(er)	Old Part(s) Ancienne(s) Pièce(s) Altes Teil/Alte Teile Vecchia(e) parte(i) Pieza(s) Anterior(es) Gammal/La detalj(er)	Service Bulletin Bulletin de Service Wartungsbulletin Bollettino Servizio Boletín De Servicio Servicebulletin

**AFTERCOOLER**  
**REFROIDISSEUR SECONDAIRE**  
**NACHKÜHLER**  
**POSTREFRIGERATORE**  
**POSREFRIGERADOR**  
**EFTERKYLARE**





K

## AFTERCOOLER

ITEM REP Nr RIF. REF. REF.	PART No. : QTY. No PIECE/QUANTITE UNITAIRE TEILNUMMER/ANZAHL No. PARTE/QTA PIEZA NO; CANT. DETALJNUMMER/ANTAL						DESCRIPTION
	23		23		43		
K1	MG708-16	2	5700711	5700711	MG708-16	2	Grubscrew
K2	52450	1	5700712	5700713	52451	1	Coupling
K3	50977	1	5700714	5700715	51039	1	Fan
K4	MN1704	5	5700716	5700716	MN1704	5	Nut
K5	1884	1		5700717	1911	1	Elbow
K6	56226	1	5700718	5700719	56227	1	Pipe
K7	1397	1	5700720	5700721	51022	1	Adaptor
K8	MS106-16	3			MS106-16	3	Screw
K9	52452	3	5700722	5700723	52453	3	Bracket
K10	MWG6	A/R	5700272	5700272	MWG6	A/R	Washer
K11	MN106	3	57749	57749	MN106	3	Nut
K12	52517	1	5700724	5700725	51006	1	Cowl
K13	MS106-12	4	5700726	5700726	MS106-12	4	Screw
K14	52357	1	5700727	5700727	52357	1	Nut
K15	MB106-50	4	5700728	5700728	MB106-50	4	Bolt
K16	50967A	4	5700729		50967B	4	Spacer
K17	50986	1	5700730	5700731	50966	1	Cooler
K18	50984	1	5700732	5700733	50940	1	Enclosure
K19	52009	1	5700734	5700735	52010	1	Elbow
K20	3534	1	5700736	5700737	3679	1	Filter
K21	E42	1	57782		0788	1	Nipple
K22	50761	1	57781	5700696	PE368	1	Valve

## PARTS MODIFICATIONS

MODIFICATIONS DES PIÈCES

BAUTEILÄNDERUNGEN

MODIFICHE PARTI

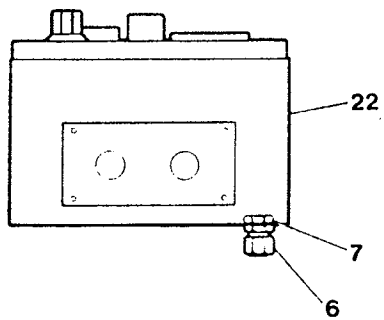
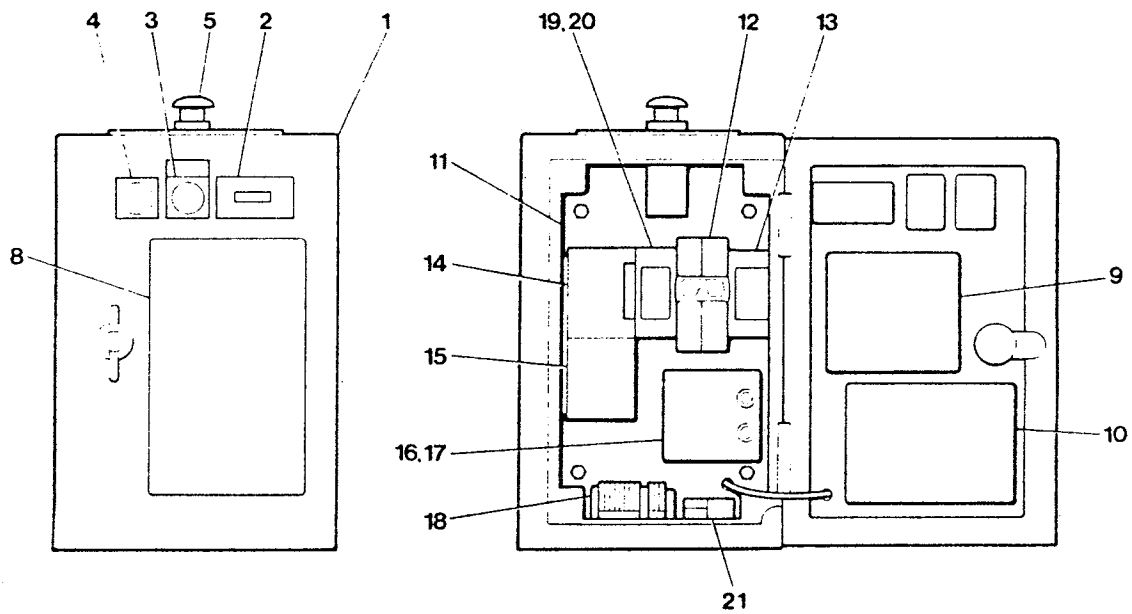
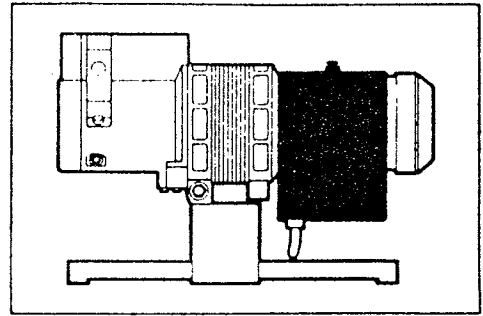
CAMBIOS DE PIEZAS

DETALJMODIFIKATIONER

Serial No. Suffix Suffixe du N de Série Serien-Nr. Suffix No. Serie Suffixo Sufijo No. Serie Serienr Suffix	Compressor(s) Compresseur Kompressor(en) Compressore(ii) Compresor(es) Kompressor(er)	Ref. Réf. Nr. Rif. Ref. Ref.	New Part(s) Nouvelle(s) Pièce(s) Neues Teil/Neue Teil Nuova(e) parte(i) Pieza(s) Nueva(s) Ny(a) detalj(er)	Old Part(s) Ancienne(s) Pièce(s) Altes Teil/Alte Teile Vecchia(e) parte(i) Pieza(s) Anterior(es) Gammal/La detalj(er)	Service Bulletin Bulletin de Service Wartungsbulletin Bollettino Servizio Boletín De Servicio Servicebulletin

**STARTER**  
**DEMARREURS**  
**ANLASSER**  
**AVVIATORI**  
**ARRANCADORES**  
**STARTANORDNINGAR**





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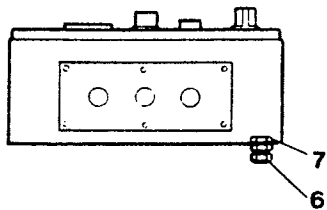
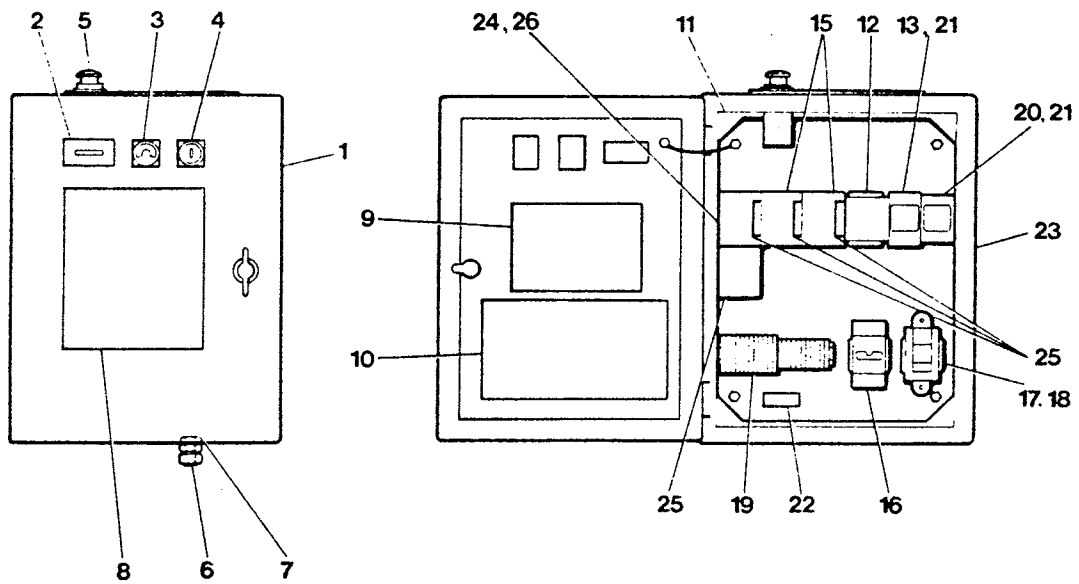
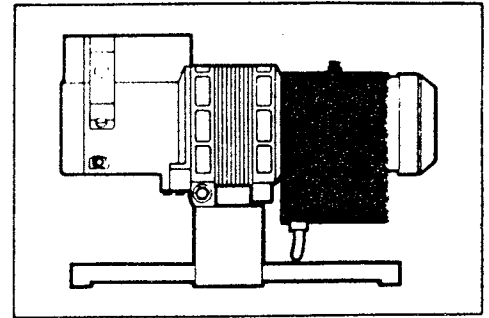
STARTER - Direct on Line

ITEM REP Nr RIF. REF. REF.	PART No. : QTY. No PIECE/QUANTITE UNITAIRE TEILNUMMER/ANZAHL No. PARTE/QTA PIEZA NO; CANT. DETALJNUMBER/ANTAL			DESCRIPTION
	23			
L1	31198/1	1		Assembly
L2	53232	1		Box
L3	53319	1		Hours Counter
L4	53657	1		Switch
L5	53658	1		Start Button
L6	53659	1		Emergency Stop
L7	1207	1		Cable Gland
L8	1209	1		Locknut
L9	53268	1		Label
L10	53270	1		Label
L11	53273	1		Label
L12	53231	1		Chassis
L13	53233	1		Timer
L14	53249	1		Circuit Breaker
L15	53235	1		Contactor
L16	53237	1		Overload
L17	53239	1		Transformer
L18	1821	1		Fuse
L19	31291	1		Terminal Block
L20	53473	1		Relay
L21	53475	1		Relay Base
L22	53476	1		Label
	52586	1		Plate

**PARTS MODIFICATIONS**  
**MODIFICATIONS DES PIÈCES**  
**BAUTEILÄNDERUNGEN**  
**MODIFICHE PARTI**  
**CAMBIOS DE PIEZAS**  
**DETALJMODIFIKATIONER**

Serial No. Suffix Suffixe du N de Série Serien-Nr. Suffix No. Serie Suffixo Sufijo No. Serie Serienr Suffix	Compressor(s) Compresseur Kompressor(en) Compressore(ii) Compressor(es) Kompressor(er)	Ref. Réf Nr. Rif. Ref. Ref.	New Part(s) Nouvelle(s) Pièce(s) Neues Teil/Neue Teil Nuova(e) parte(i) Pieza(s) Nueva(s) Ny(s) detalj(er)	Old Part(s) Ancienne(s) Pièce(s) Altes Teil/Alte Teile Vecchia(e) parte(i) Pieza(s) Anterior(es) Gammal/La detalj(er)	Service Bulletin Bulletin de Service Wartungsbulletin Bollettino Servizio Boletín De Servicio Servicebulletin





ITEM REP Nr RIF. REF. REF.	PART No. : QTY. No PIECE/QUANTITE UNITAIRE TEILNUMMER/ANZAHL No. PARTE/QTA PIEZA NO; CANT. DETALJNUMMER/ANTAL				DESCRIPTION	
	23		43			
	31199-1	1		31292-1	1	Assembly
M1	53253	1		53253	1	Box
M2	53319	1		53319	1	Hours Counter
M3	53229	1		53229	1	Switch
M4	53228	1		53228	1	Start Button
M5	53230	1		53230	1	Emergency Stop
M6	1207	2		1207	2	Cable Gland
M7	1209	2		1209	2	Locknut
M8	53268	1		53268	1	Label
M9	53272	1		53272	1	Label
M10	53274	1		53274	1	Label
M11	53250	1		53252	1	Chassis
M12	53250	1		53250	1	Timer
M13	53251	1		53251	1	Timer
M14	53249	1		53249	1	Circuit Breaker
M15	53488	2		53488	2	Contacteur
M16	53255	1		53255	1	Overload
M17	53257	1		53257	1	Transformer
M18	1821	1		1821	1	Fuse
M19	31172	1		31172	1	Terminal Block
M20	53473	1		53473	1	Relay
M21	53475	1		53475	1	Relay Base
M22	53476	1		53476	1	Label
M23	52586	1		52586	1	Plate
M24	53248	1		53492	1	Contacteur
M25	53489	3		53489	3	Contact Breaker
M26				53491	1	Contacteur

## PARTS MODIFICATIONS

MODIFICATIONS DES PIÈCES

BAUTEILÄNDERUNGEN

MODIFICHE PARTI

CAMBIO DE PIEZAS

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