

mouvex

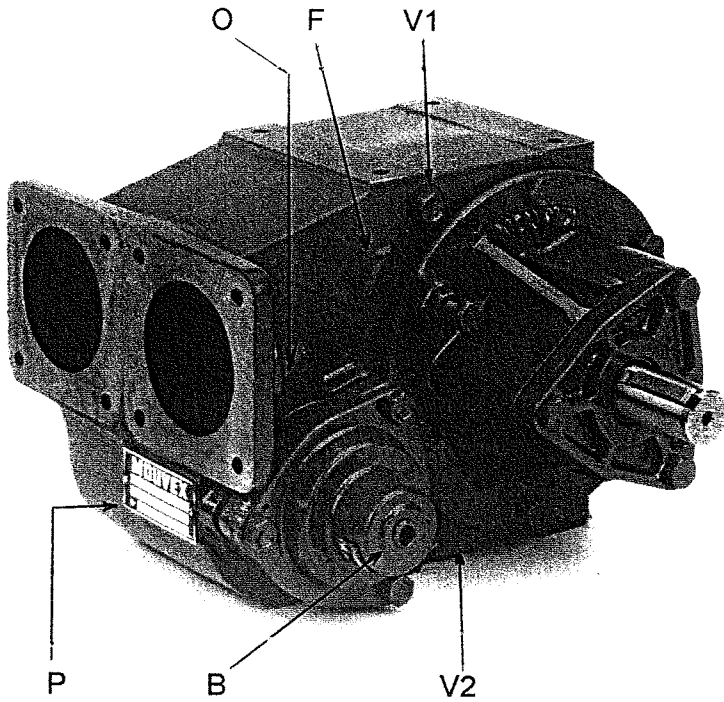
VANE PUMP

CC 8 6 5 I

**USE
MAINTENANCE**

Technical Instructions N° 308

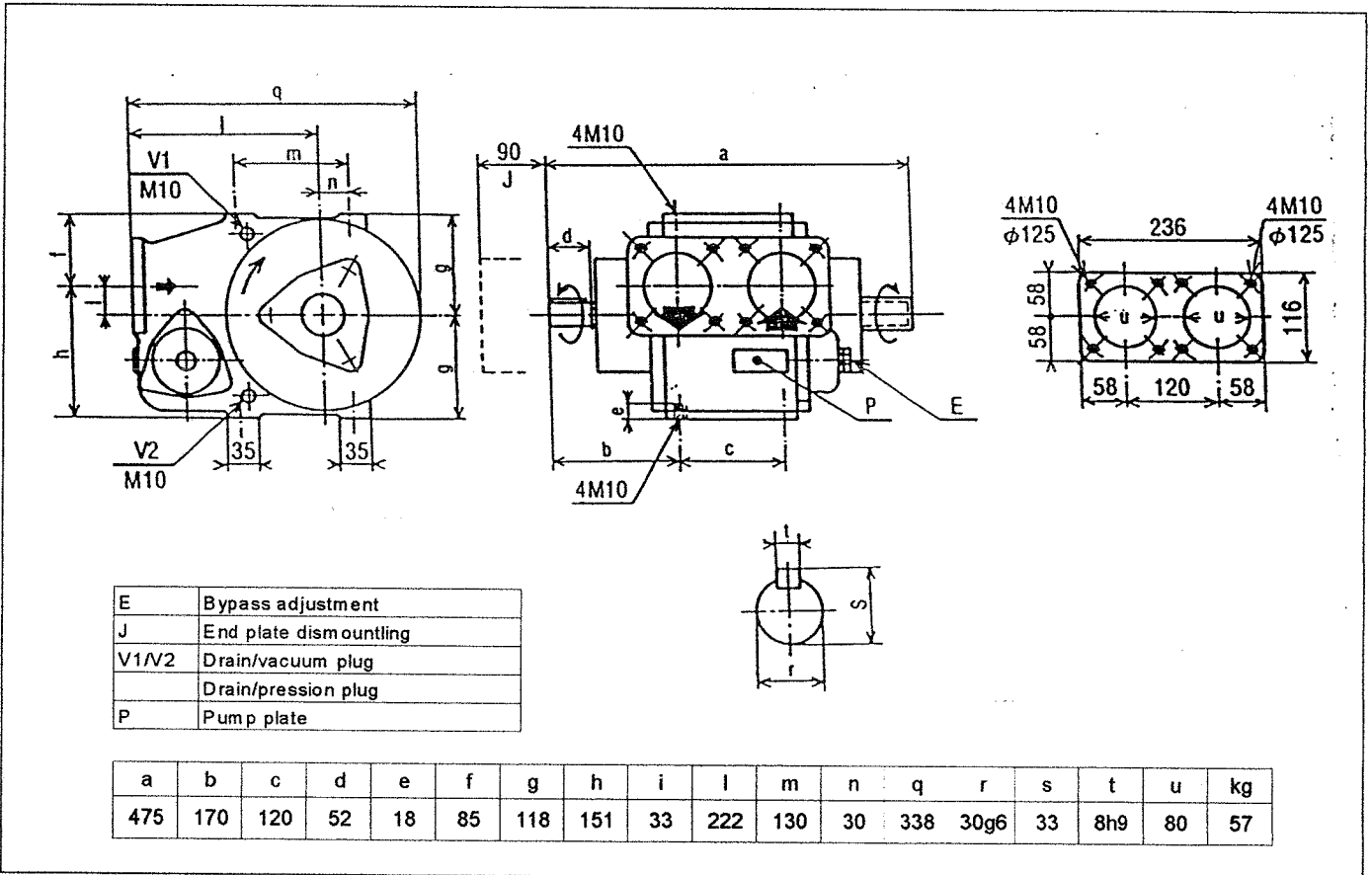
mouvex 5, rue du Sahel - F 75012 PARIS



KEY

- B Bypass
- F Arrow rotation
- O Arrow suction
- P Pump plate
- V1 Drain/Vaccum plug
- V2 Drain/Pressure plu

OVERAL DIMENSIONS - mm



The pump rotates in one direction only. This is indicated by an arrow on the pump housing. However, the pump has both of its shaft-ends led out and must be driven through one or the other depending on the direction of rotation of the power take-off. Because the pump rotates in one direction only, the positions of the suction and discharge ports are not to be reversed (see arrows on housing). The safety bypassse has not to be reversed.

ASSEMBLY - DISASSEMBLY

Before any disassembly, make sure that the pump has been drained and take all the necessary precautions to prevent it from starting up. The pump must not start up, even accidentally.

TOOLS REQUIRED

Flat spanners of sizes 13 - 17 - 24
Opening circlip pliers
Mallet

Tubular socket spanner of size 17
Screwdriver
Torque wrench can be used.

TIGHTENING TORQUES:

M10 ---> 3347 da N.mm

M 8 ----> 1684 da N.mm

M 6 ----> 687 da N.mm

**OPENING UP OF THE PUMP
AT NON-DRIVE SIDE**

Loosen the bolts 723.
Remove the end-cover
712 and the O-ring
714.

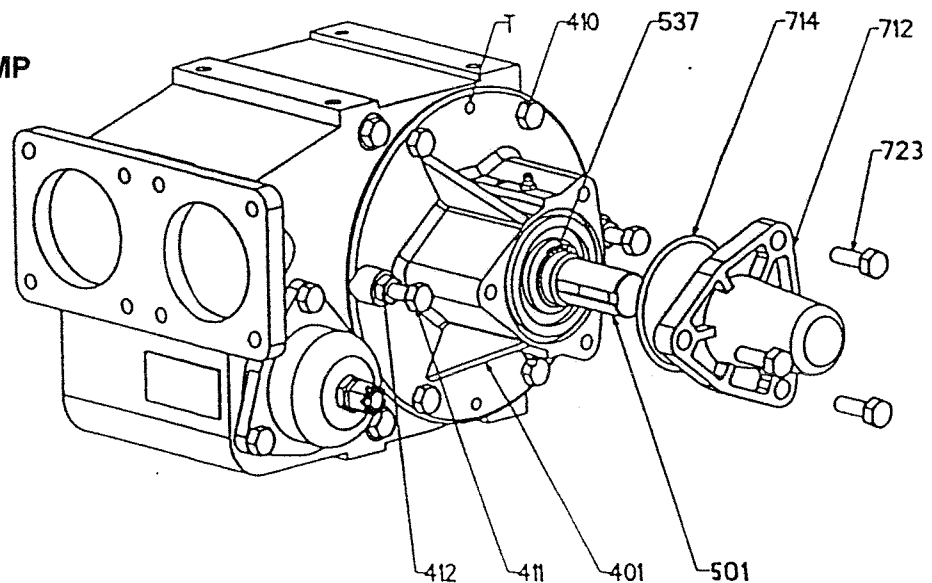
Remove the circlips
537.

Carefully clean the
shaft end to remove
any traces of paint,
oxidation, burrs...

Loosen the 4 bolts 410

Loosen the 2 bolts
411, fitted with their
nuts 412, and place
them in the 2 tapped
holes T.

Screw these 2 bolts simultaneously so that the cover is progressively uncoupled in the axle.
When the cover is free on the shaft, withdraw it manually while supporting it.



**RE-ASSEMBLY OF THE PUMP
AT NON-DRIVE SIDE**

Mount the end-cover 712 on the cover 401 using the bolts 723.

Lubricate the shaft 501 slightly.

Check that the O-ring 403 is in good condition and correctly positioned, replace it if necessary and set it in place with a suitable lubricant.

Position the spigots of the shaft O-ring in the same plane as the drainage hole L.

Turn the rotor to orientate the drive slots of the shaft O-ring into the vertical plane.

Position the cover 401 on the shaft and advance it as far as possible by hand.

Rotate the cover so as to position the drainage hole L downward.

Check that the spigots of the shaft O-ring are opposite the slots of the rotor.

Position the 2 bolts 411, complete with their nuts 412 and finish fitting the cover by progressively tightening the 2 nuts 412.

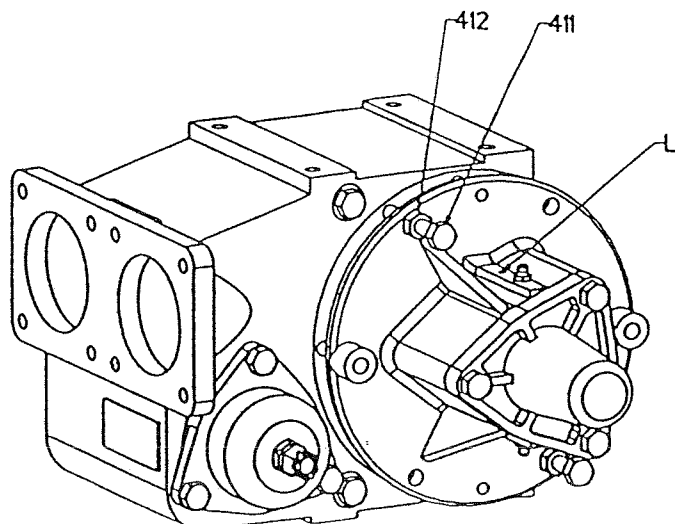
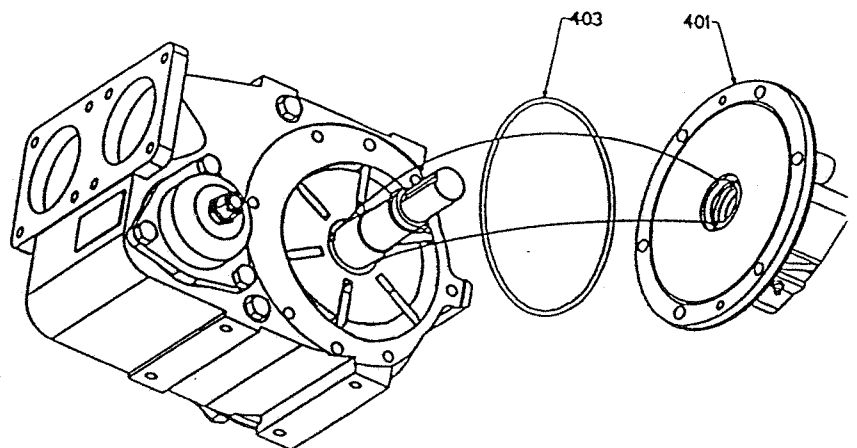
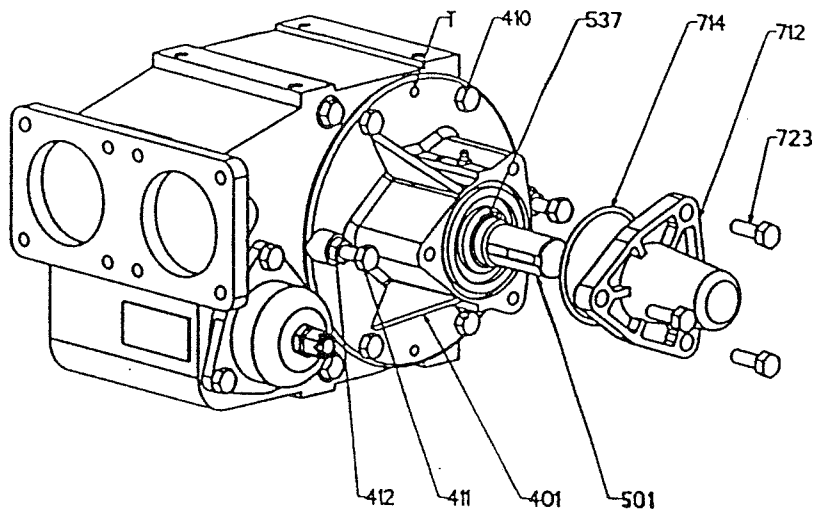
Re-screw the 2 bolts 411, complete with their nuts 412 into the bosses.

Screw down the bolts 410.

Remove the end-cover 712.

Fit the circlips 537. Put back the end-cover 712 with its O-ring 714 after checking its condition.

Free the shaft line by a slight blow with a mallet at its end and makes certain that the pump turns freely by hand.



OPENING OF THE PUMP AT DRIVE SIDE

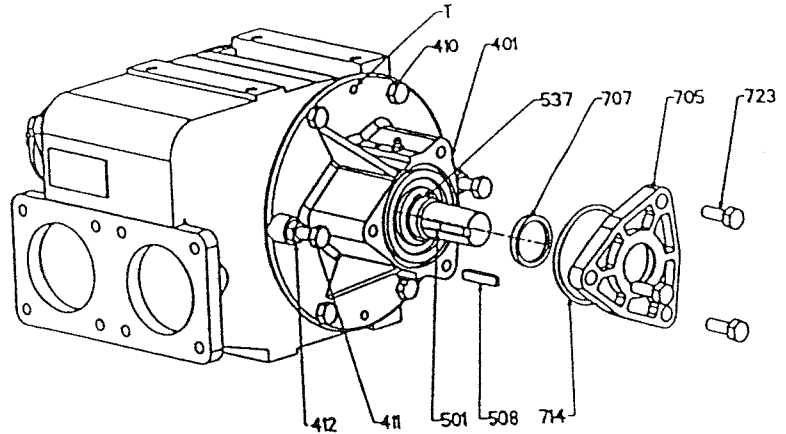
Uncouple the pump by removing the coupling sleeve.
Remove the key 508.

Carefully clean the shaft end to remove any traces of paint, oxidation, burrs...

Loosen the bolts 723a and remove the end-cover 705 with its O-ring 714a, taking care not to damage the lip seal 707a.

Remove the circlips 537.

Proceed in an identical manner to the disassembly at non-drive side (For explanations, see previous page).

**RE-ASSEMBLY OF THE PUMP AT DRIVE SIDE**

Fit the end-cover 705 on the cover 401 using the bolts 723a. Lubricate the shaft 501 slightly. Check that the O-ring 403 is in good condition and correctly positioned, replace it if necessary and set it in place with a suitable lubricant.

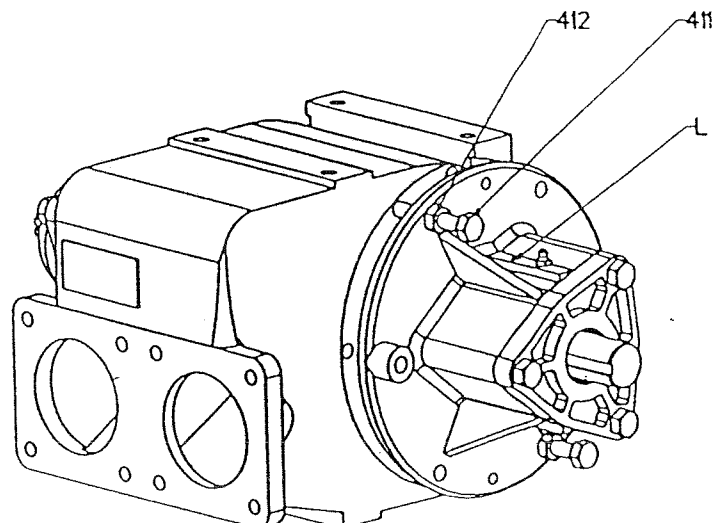
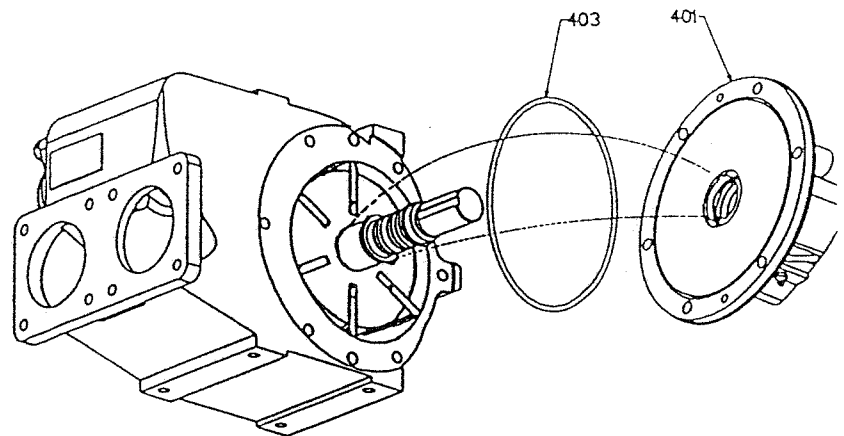
Proceed in an identical manner to the disassembly at non-drive side.

Remove the end-cover 705.

Fit the circlips 537.

Put back the end-cover 705 with its O-ring 714 and lip seal 707 after checking their condition.

Free the shaft line by a slight blow with a mallet at its end and make certain that the pump turns freely by hand.



INSPECTION OF THE VANES

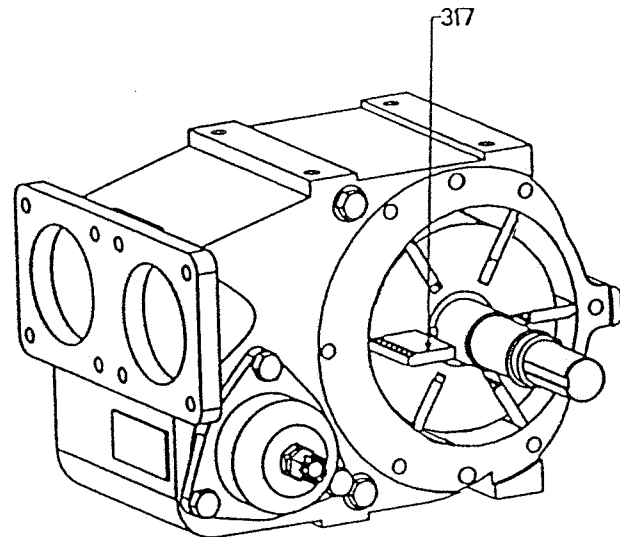
Open up the pump at the non-drive side
Remove a vane 317 situated in an horizontal plane.

Check it for wear (see § on maintenance).

In the case of abnormal wear, check the surface state of the cylinder and cover faces.

Replace the vane (with a new one if necessary) making sure it is fitted in the right direction.

Then proceed in the same way for each vane.

**INSPECTION OF THE PUSHRODS**

Uncouple the pump by removing the coupling.

Dismantle the cover at the non-drive side (For explanations, see previous page)

Loosen the 4 bolts 410 and the 2 bolts 411, complete with their nuts 412.

Pull on the cover 401 in such a way as to release the rotor 301 from a little more than half of the pump cylinder 101.

Hold the vanes 317 in place by means of suitable straps (elastic, bracelets, ...).

Completely remove the shaft 501 with rotor 301, the vanes 317 and the complete bearing of the pump cylinder 101.

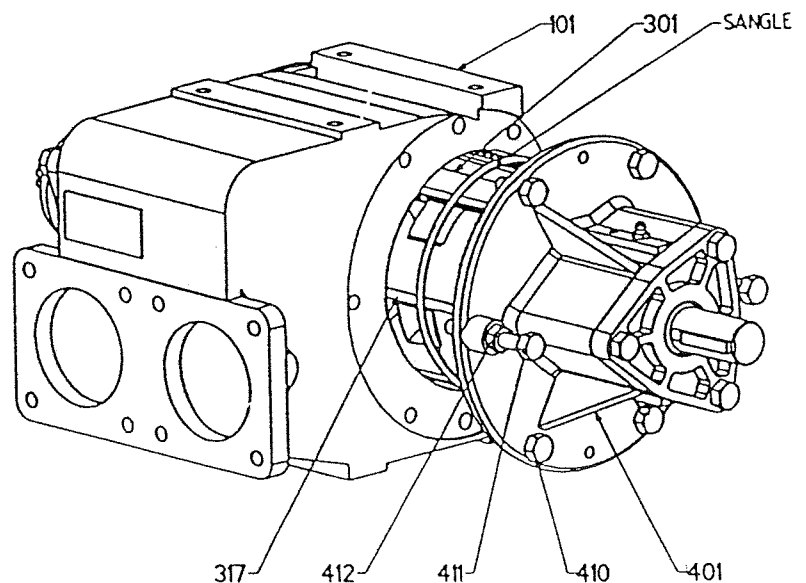
Do not dismantle this assembly. Pull out the straps and the vanes 317.

Pull out the pushrods 318 by pushing them, if necessary, with a screwdriver.

Pull out the rotor 301.

Check the pushrods 318 for wear (See § on maintenance) and change them as necessary.

Check the wear of the keyways and of the 2 keys 536.



RE-ASSEMBLY OF THE VANES AND PUSHRODS

(Version with pushrods)

Position the shaft 501 vertically with the cover facing down.

Position the O-ring 403, fixing it if necessary with a suitable lubricant.

Fit the keyways 536.

Insert the rotor 301 on to the shaft 501.

Check that the holes of the plunger of the rotor 301 coincide with those of the shaft 501; if they do not, re-insert the rotor in the other direction.

See to it that the shaft seal carrier engages in the slots provided for this effect.

Insert the pushrods 318 using orthogonal matings (see figure opposite).

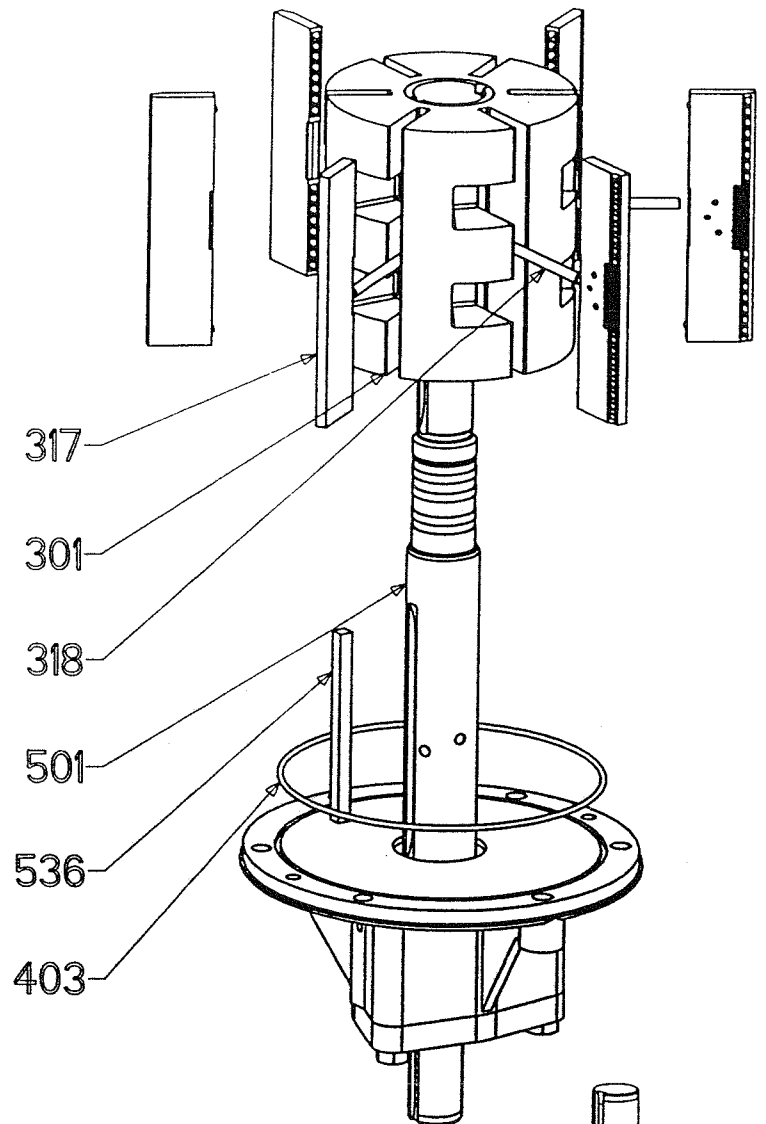
Insert the vanes making sure they are fitted in the right direction (see detail A), and check that they slide freely. Hold them in place using suitable straps (elastic, bracelets...).

Insert this assembly into the cylinder 101, removing the straps at an opportune moment.

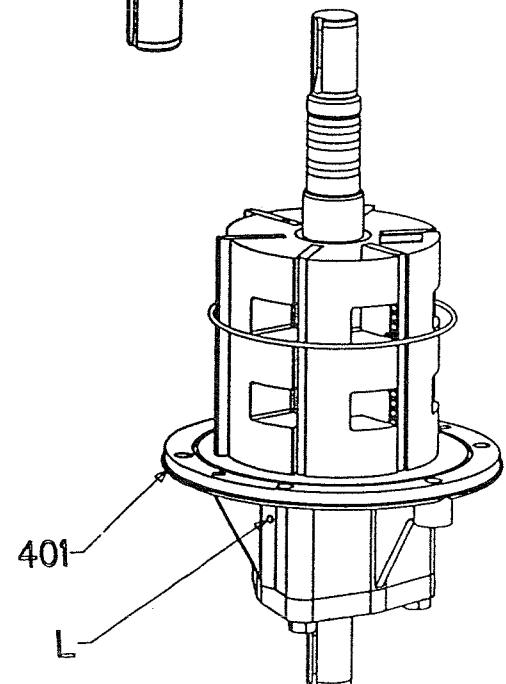
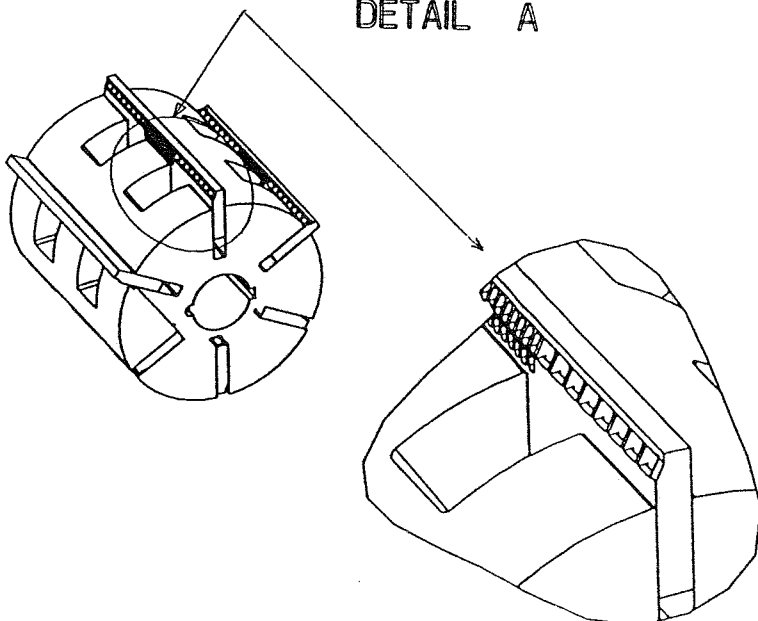
Orientate the cover 401 with a drainage hole L pointing down and fixing it to the pump cylinder 101.

Re-fit the cover on the non-drive side (for explanations, see previous page).

Check that the pump rotates freely when turned by hand.



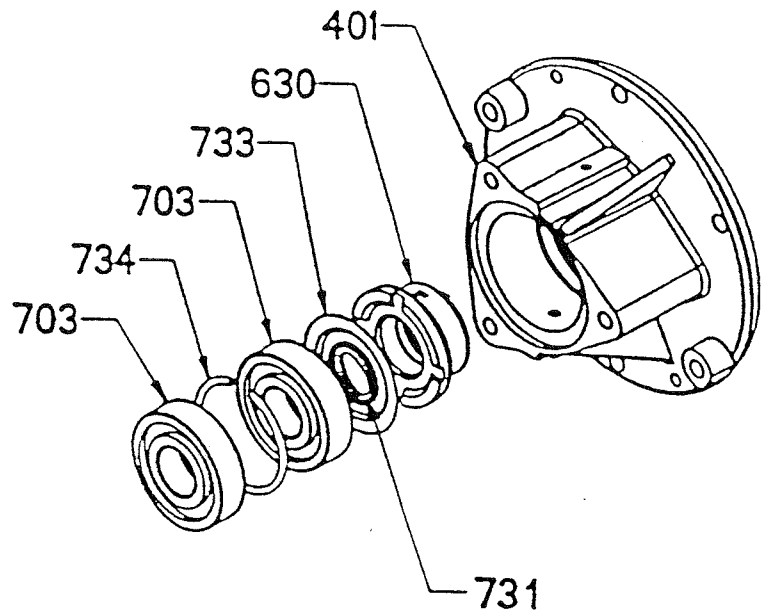
DETAIL A



CHANGING OF THE O-RINGS AND BALL BEARINGS

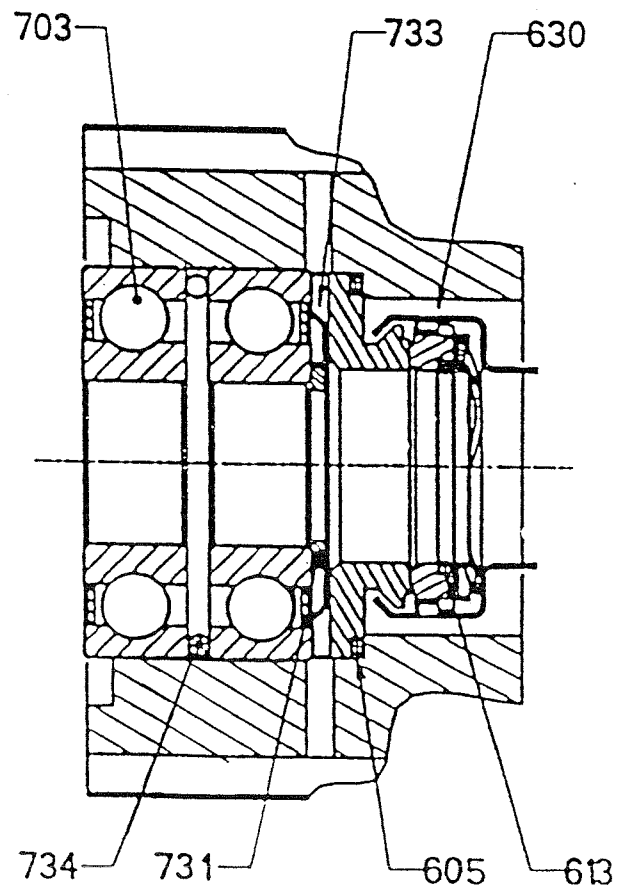
DISASSEMBLY

Dismantle the cover at the appropriate side (See previous explanations).
 Position it on its machined face taking care not to damage the drive pins of the shaft seal 630.
 Remove the parts one by one.



RE-ASSEMBLY

Lubricate the bore which takes the roller bearings.
 Make sure that the O-rings 605 and 613 of the shaft seal 630 are in good condition. Change them if necessary.
 Place the O-ring 605 in the Cover 401.
 Make sure that O-ring 613 is correctly positioned in the cover 630.
 Re-fit the shaft seal 630 (a new one if necessary) in the base 401, supported on O-ring 605.
 Place the protection ring 733 as support on shaft seal 630.
 After having lubricated the bore which takes the roller bearings, position a ball bearing 703 as support on the protection ring 733.
 Position the spacer 734.
 Position the second ball bearing 703 up against the spacer 734.
 Re-fit the base by following the previous instructions.



DISASSEMBLE AND REASSEMBLE THE BYPASS**Bypasse setting**

Before any action, unscrew lock-nut 835, then :

- . to increase pressure tighten nut 834 (making sure that pressure setting is suitable for the installation and the available horsepower).
- . to decrease pressure unscrew nut 834.

After pressure setting, tighten lock-nut 835.

To disassemble

Set bypass at minimal pressure. To do so, unscrew lock-nut 835, then unscrew nut 834 taking care to count the number of rotations so as to be able to reset bypass at initial pressure setting.

Unscrew the three bypass cap screws 856.

Remove spring 824.

Remove the poppet 823 by pulling its cylindrical section with the fingers.

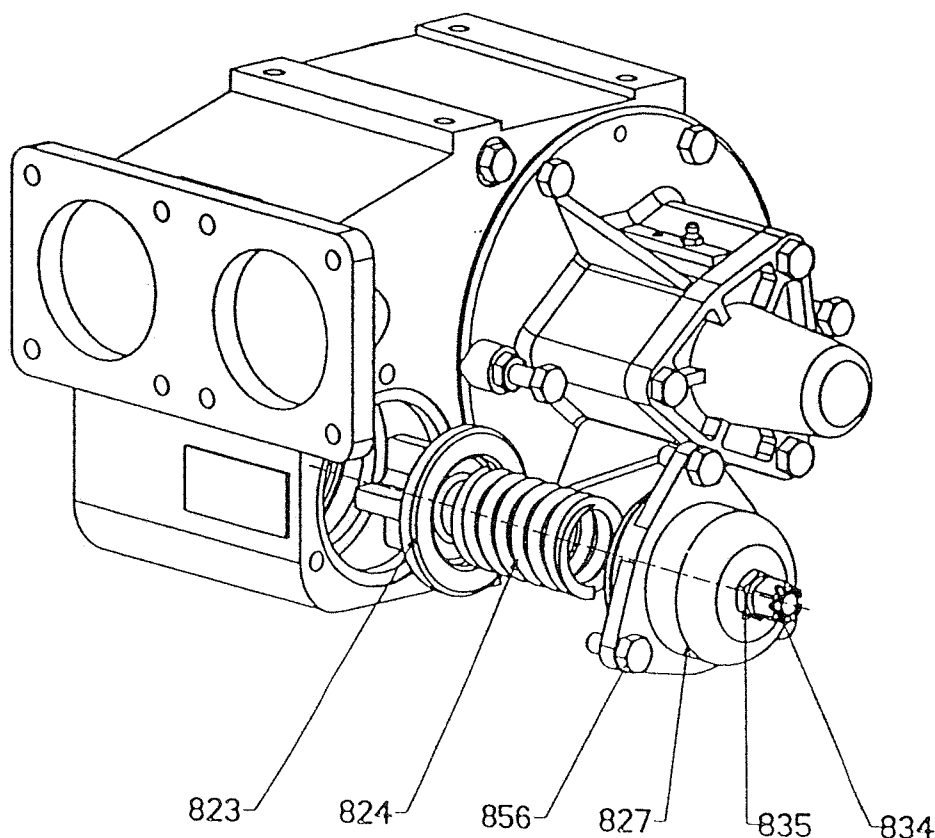
Check condition of bypass.

Clean all parts before reassembly.

To reassemble

Reassemble in reverse order of disassembly.

Set bypass at initial pressure setting by tightening nut 834 with the same number of rotations as counted during dismounting. Then tighten lock-nut 835.



MAINTENANCE

1) Lubrication of the ball bearings :

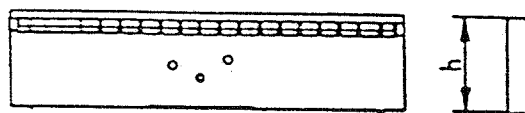
Do not lubricate, the bearings are lubricated for life.

2) Checking of the condition of the vanes and pushrods :

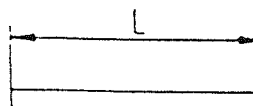
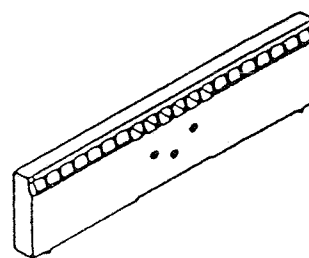
It is recommended that the condition of the vanes and the pushrods should be checked every 700 hours.

In the case of excessive wear the pushrods and vanes should be replaced by a complete set.

VANES		
	ORIGINAL HEIGHT « h »	CHANGE WHEN $h < \grave{a}$
CC8 65 I	35,3 mm	33,3 mm



PUSHRODS		
	ORIGINAL LENGHT « L »	CHANGE WHEN $L < \grave{a}$
CC8 65 I	85 ^{+0,2}	84,5



LEGEND: ° = Assemblies and parts able to be supplied as spares.
 The reference designates only one unit of the part or assembly ref.
 example: 1 x ref. 317 = 1 vane
 1 x ref. 309 = 1 set of 12 vanes

Ref	No.	DESIGNATION
° 098	1	SET OF BOLTS (410 + 411 + 412 + 723)
° 099	1	SET OF PUMP O-RINGS (403 + 707 + 714)
° 100	1	CASING COMPLETE
101	1	Cylinder
115	1	Plate
116	2	Rivet
° 124	1	DRAIN PLUG COMPLET
125	2	Plug
126	2	Seal
° 300	1	ROTOR, COMPLETE
301	1	Rotor
317	6	Vane (see 309)
318	3	Pusrods
° 309	1	SET OF 6 VANES 317
° 325	1	SET OF 3 PUSRODS 318
° 400	2	COVER, COMPLETE
401	2	Cover
403	2	O-ring
404	4	Obturator
407	1	Ring
410	8	Bolt (see 098)
411	4	Dismantling bolt (see 098)
412	4	Dismantling nuts (see 098)
° 409	1	SET OF 2 O-RINGS 403
° 500	1	SHAFT, COMPLETE
501	1	Shaft
° 599	1	SET OF KEYS, COMPLETE
508	1	Shaft end key
536	1	Rotor key
537	1	Retaining ring
731	2	Washer
° 630	2	MONOBLOC SHAFT O-RING, COMPLETE
604	2	Counterpart
605	2	Counterpart O-ring (see 699)
612	2	Cup
613	2	Cup O-ring (see 699)
614	2	Spring support
615	6	Spring
616	2	Shaft O-ring cage
° 699	1	SET OF O-RINGS (605 + 613)

	703	2	Ball bearing	(see 704)
	714	1	Endcover O-ring	(see 715)
	723	3	Endcover bolt	(see 098)
	733	1	Protection ring	
	734	1	Spacer	
°	712	1	Endcover, complete	
°	700a	1	BALL BEARING, COMPLETE	
	703a	2	Ball bearing	(see 704)
	705	1	Endcover	
	707	1	Lip O-ring	(see 715)
	714a	1	Endcover O-ring	(see 715)
	723a	3	Endcover bolt	(see 098)
	733a	1	Protection ring	
	734a	1	Spacer	
	704	1	SET OF 4 BALL BEARINGS 703	
	715	1	SET OF ENDCOVER O-RINGS (707 + 714 + 714a)	
°	820	1	COMPENSATED BYPASS COMPLETE	
°	823	1	Compensated poppet	
°	827	1	Adaptor nut	
°	898	1	ADJUSTMENT PIN ASSEMBLY	
	807	1	Seal	see 899
	825	1	Thrust piece	
	826	1	Adjustment pin	see 899
	831	1	Nut split-pin	see 899
	834	1	Adjustment nut	see 899
	835	1	Lock nut	see 899
	856	3	Cup screw	see 098
°	824	1	SPRING 4 or 8 or 2,5 bar	
°	899	1	SET OF BYPASS SEALS (807+831+834+835+837)	
°	001	1	PUMP LEG COMPLET	
	002	4	Screw	
	003	4	Lockwasher	
	004	1	Pump leg	
°	700a	1	BALL BEARING, COMPLETE	(see 704)
	703a	2	Ball bearing	
°	706	1	Reducing gear support flange	
°	710	1	Peel-off lining	
	724	3	Flange bolt	
	733a	1	Protection ring	
	734a	1	Spacer	
	752	4	Reducing gear bolt	
	753	4	Spring washer	

NOTE: - To order spare parts, please indicate:

TYPE and SERIAL NO. of the pump (stamped on pump plate)

The document reference: Technical Instructions No.200c

REFERENCES and DESIGNATIONS of the desired parts. Only those parts (complete assemblies or separate parts) whose reference is preceded by (°) can be supplied.

