



**INSTRUCTIONS 1010-D00 e**

Section	1010
Effective	March 2008
Replaces	March 2006

Original instructions

# **CC8-40 - CC8-50 - CC8-65**

## ***pumps***

**INSTALLATION**

**OPERATION**

**MAINTENANCE**

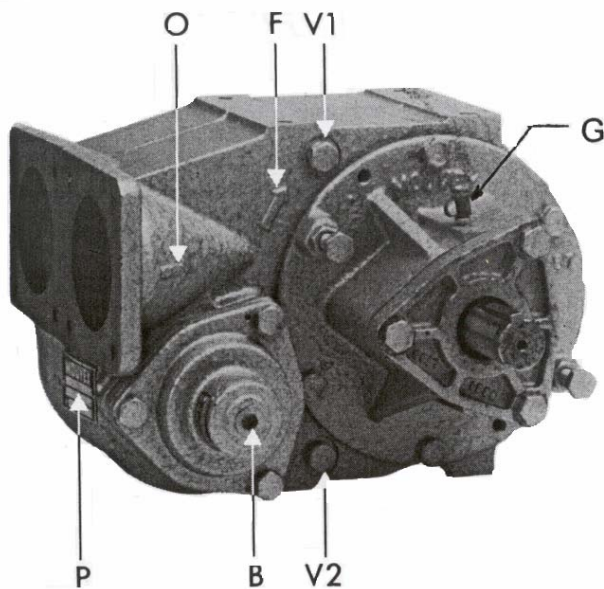
**BLACKMER**  
Z.I. Plaine des Isles  
F- 89000 AUXERRE

Tel. : +33 (0)3.86.49.87.13  
Fax : +33 (0)3.86.49.87.17  
E-mail : [contact@blackmer-mouvex.com](mailto:contact@blackmer-mouvex.com)

**BLACKMER**  
1809 Century Avenue, Grand Rapids  
MICHIGAN 49509-1595 - U.S.A.

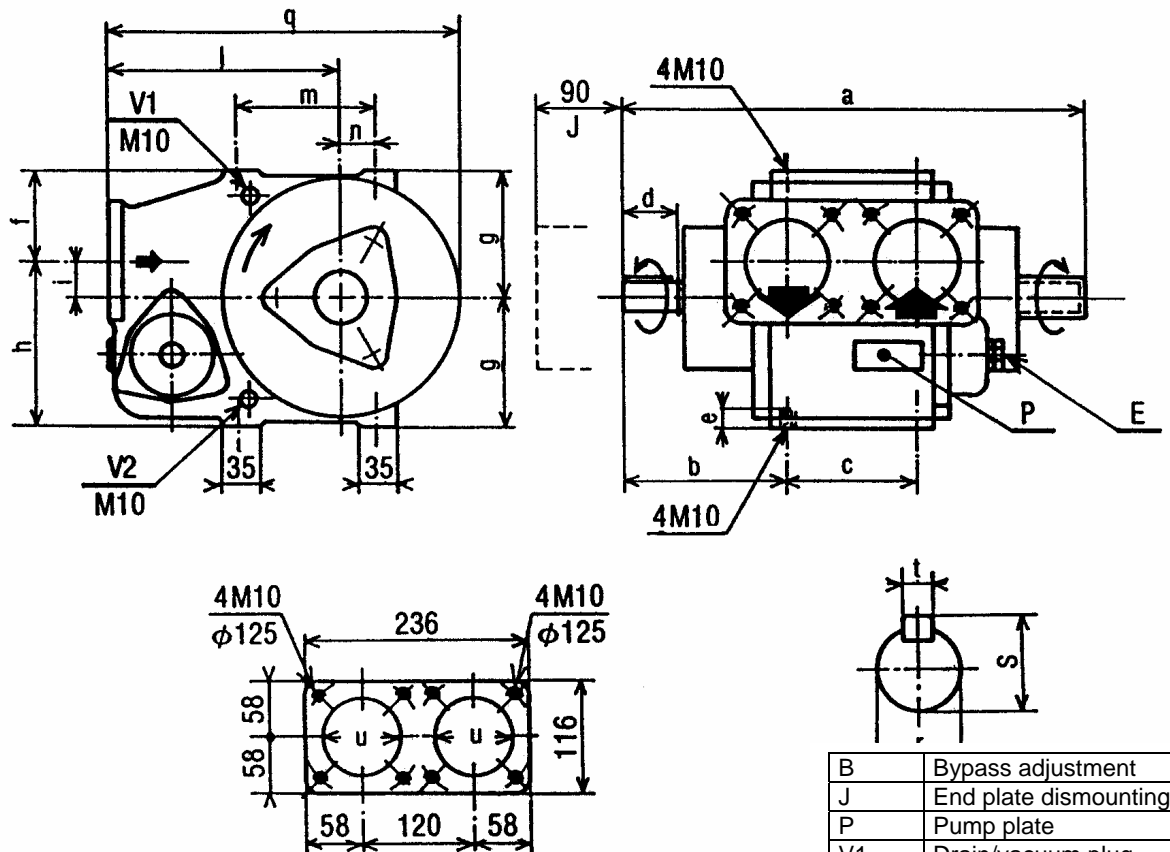
Tél. : +1 (616) 241-1611 Fax : +1 (616) 241-3752  
E-mail : [blackmer@blackmer.com](mailto:blackmer@blackmer.com)  
Internet Address: [www.blackmer.com](http://www.blackmer.com)

**Your distributor :**



- B Bypass
- P Pump plate
- V1 Drain plug-vacuum plug
- V2 Drain plug-pressure plug
- G Lubricator nipple (C construction)
  
- F Arrow rotation
- O Arrow suction

**DIMENSIONS- mm**



B	Bypass adjustment
J	End plate dismounting
P	Pump plate
V1	Drain/vacuum plug
V2	Drain/pressure plug

POMPE	a	b	c	d	e	f	g	h	i	l	m	n	q	r	s	t	u	kg
CC8 40-CC8 50	443	158	110	50	17	79	112	145	33	216	120	30	318	30g6	33	8h9	80	48
CC8 65	475	170	120	52	18	85	118	151	33	222	130	30	338	30g6	33	8h9	80	57

The pump rotates in one direction only. This is indicated by an arrow on the pump housing. However, the pump has both of shaft-ends led out and must be driven through one 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 be reversed (see arrows on housing). The safety bypass has not to be reversed.

## DATA

CONSTRUCTION	SPEED RANGE rpm	FLOW RATE PRESSION m <sup>3</sup> /h			PRESSURE Max bar	REQUIRED POWER kw		
		CC8-40	CC8-50	CC8-65		CC8-40	CC8-50	CC8-65
<b>Construction A</b> Viscosity < 40 cst	400 à 1200	48	-	-	4	7.6	-	-
	450 à 750	28	35	44	8	7.8	10	1.3
	450 à 1000	40	50	65	4	6	6.5	8.5
<b>Construction I</b> Viscosity < 40 cSt.	450 à 750	-	-	45	6	-	-	9.2
<b>Construction C</b> Viscosity < 400 cSt.	400 à 750	31	36	44	8	9.7	11	13
	Viscosity < 900 cSt.	400 à 600	-	-	35	6	-	-

The pumps CC8 can work at a pressure equal to 8 bar.

They are normally delivered with spring (4 or 8 bar) adjusted at 4 bar.

When requested, they can be delivered with a 8 bar spring adjusted at the maximum pressure of use.

## ASSEMBLY AND DISASSEMBLY OF PUMP

Make sure that the pump has been drained before starting disassembly.

### TOOLS REQUIRED :

Flat wrenches, 13, 17, 22

Tube wrench, 17 mm

Circlip opening pliers

Makeup torques :

- M10.....3347 da N.mm
- M 8.....1684 da N.mm
- M 6..... 687 da N.mm

## TO OPEN PUMP ON SIDE OPPOSITE TO DRIVE SYSTEM

Unscrew the screws **723**, and remove the cover **712**.

Remove circlip **537**.

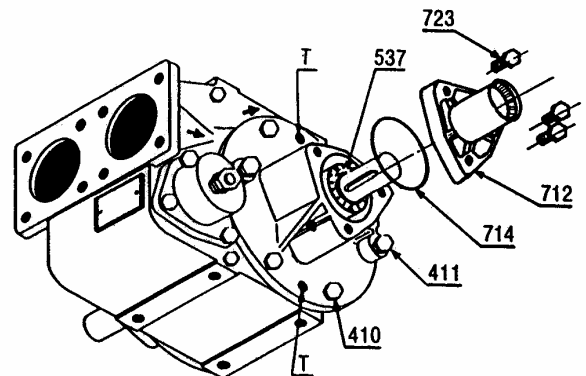
Clean the end shaft.

Unscrew the 4 screws **410**.

Unscrew the 2 screws **411** fitted with their nuts and place them in the 2 tapped holes T.

Screw up the 2 screws at the same time so that the end-plate is gradually released along the centre line.

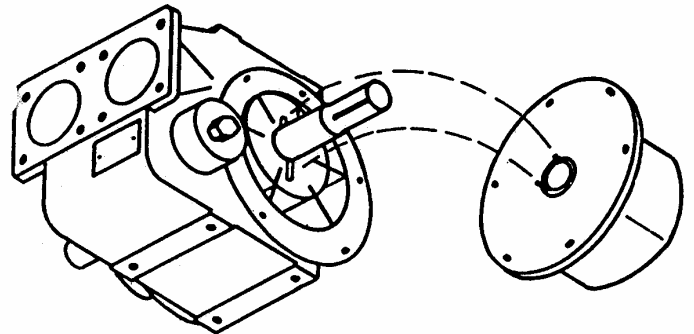
When it is free on the shaft, hold it by hand remove it.



## TO OPEN PUMP ON DRIVE SIDE

Uncouple the pump by removing the U-joint or the coupling.

Remove the key **508** and clean the end shaft. Then proceed in the same way as when dismantling on the other side. On CC8-40 and CC8-50 pumps, it is necessary to push cover **705** slightly a side to avoid damaging O-ring **707** on key.



## REASSEMBLE

When putting the end-plate back into place take care to have the spigots facing the notches on rotor.

Replace cover **712** or **705** on the end plate **401** with screws **723**.

Lubricate the shaft **501** slightly.

Make sure that the end-plate seal **403** is correctly positioned, check it and change it if necessary.

Position the cover **401** on the shaft O-ring and approach it as far as possible by hand.

Finish fitting the end-plate, screwing the 2 nuts **412** gradually on to the 2 screws **411** (see drawing).

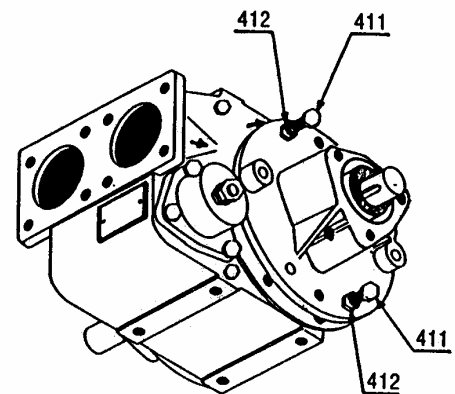
Make sure that end-plate is centred while screwing. When it is in place remove the screws **411** and nuts **412**, screw up the longer screws **411** in the bosses on the end-plate.

Replace screws **410**.

Remove cover **712** or **705**.

Replace circlips **537**.

Replace cover **705** with its seal **707** after check condition of seal.



## TO CHANGE THE VANES

Open the pump on one side or the other.

Remove the vanes **317**.

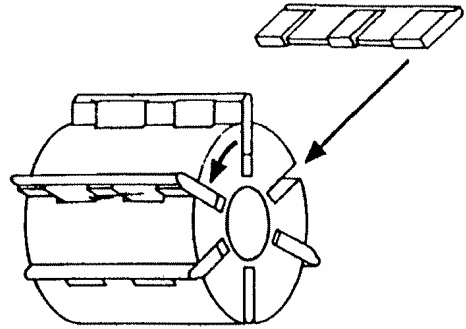
Check for wear (see § MAINTENANCE).

If vane wear is abnormal, check surface condition of body and of end-plate faces.

Refit the vanes (new if necessary) respecting the direction of assembly.

Reassemble the pump.

Turn it over by hand to check operation.



## TO REPLACE THE CARTRIDGE-TYPE SHAFT SEAL

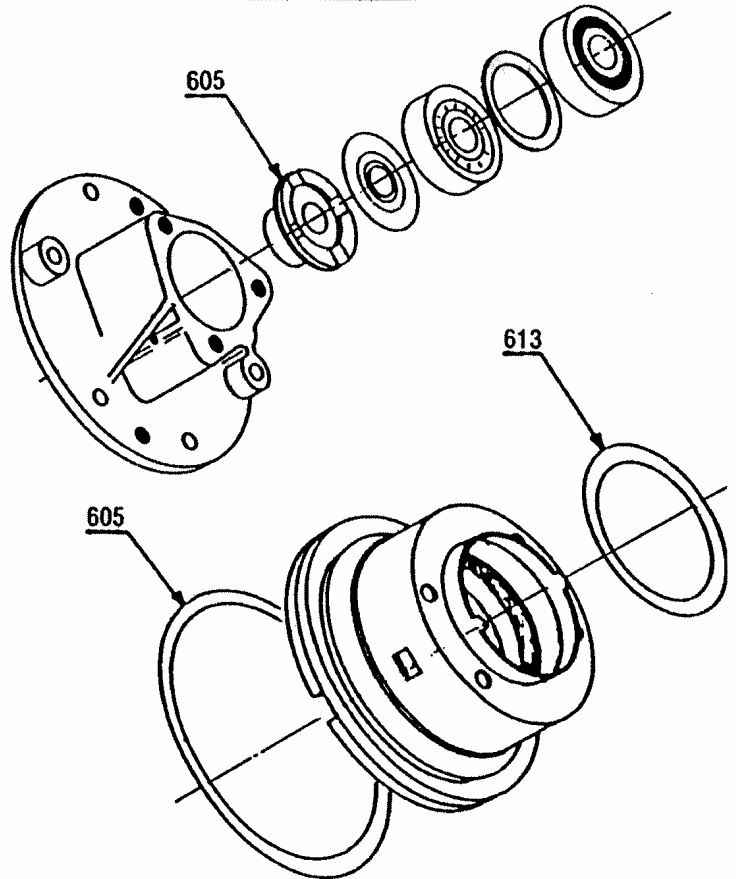
### Disassembly

Remove the end-plate.

Lay it on its machined side taking care not to damage the cage drive lugs.

Remove parts.

Remove shaft seal by inserting fingers in shaft seal center hole.



### Reassembly

#### IMPORTANT :

Lubricate the bore which takes the roller bearings

C Construction : Bearings to be greased and mounted head-to-tail (seals on the outside).

Make sure that gasket **605**, **613** and the packing are in good condition. Change them if necessary.

Place the gasket **605** in the base **401**.

Make sure that gasket **613** is correctly positioned in the packing **630**.

Refit the packing **630** (a new one if necessary) in the base **401**, supported on the gasket **605**.

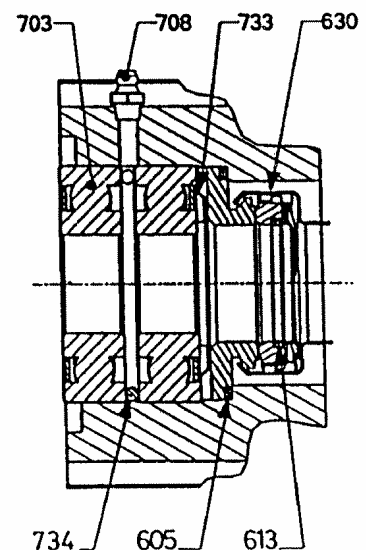
Place the protection ring **733** so as to be supported on the packing **630**.

Place, a bearing **703**, supported on the protection ring **733**.

Place the distance sleeve with its aperture opposite a lubricator **708** (if present).

Place the second bearing **703** so it is supported on the distance sleeve **734**.

Refit the base by following the previous instructions.



## TO DISASSEMBLE AND REASSEMBLE THE BYPASS FOR INSPECTION

### To disassemble

Set bypass at minimal pressure. To do so, unscrew lock-nut.

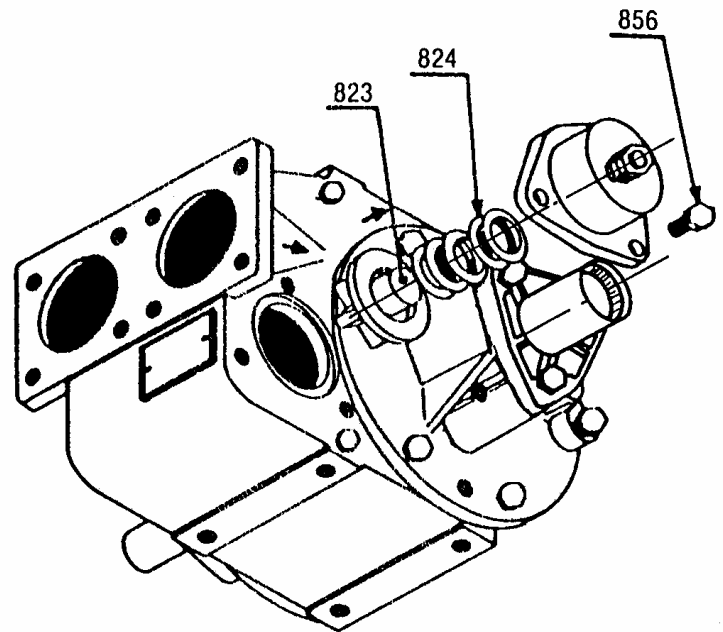
Then unscrew nut taking care to count the number of rotations so as to be able to reset bypass at initial pressure setting.

Unscrew the 3 bypass cap screws **856**.

Remove spring **824**.

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

Check condition of bypass.



### To reassemble

Clean all parts before reassembly.

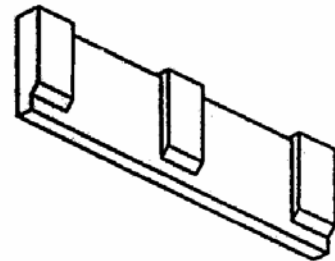
Reassemble in reverse order of disassembly.

Set bypass at initial pressure setting by tightening nut with the same number of rotations as counted during dismounting.

## MAINTENANCE

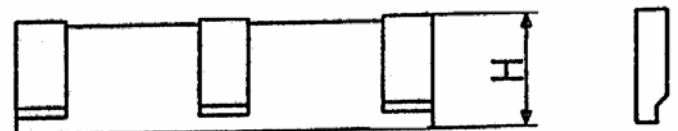
### Inspection of the vanes :

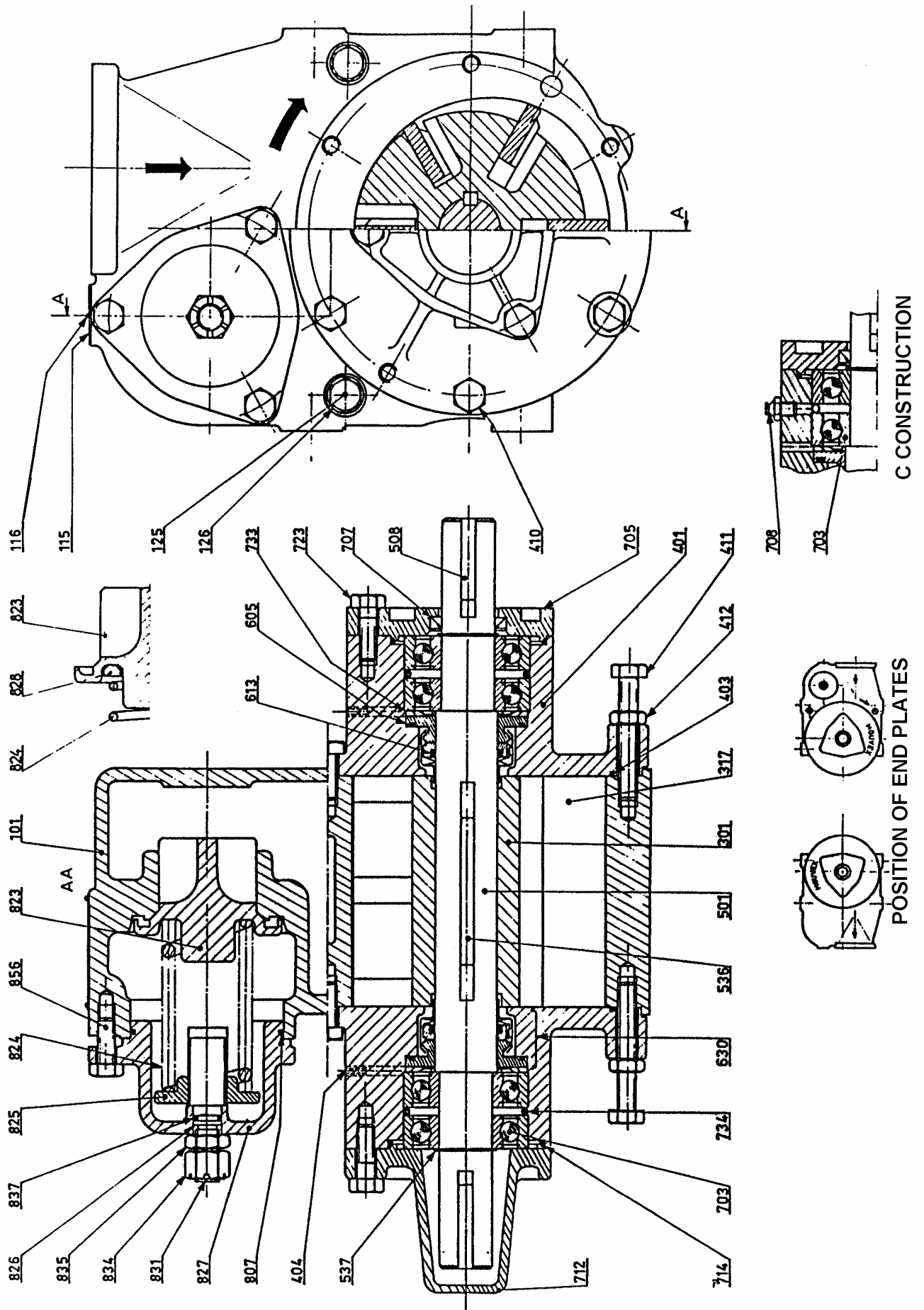
PUMP TYPE	CC8 40	CC8 50	CC8 65
Original height "L"	35	35	38
Change when "L" < to	30.5	32.5	35.5

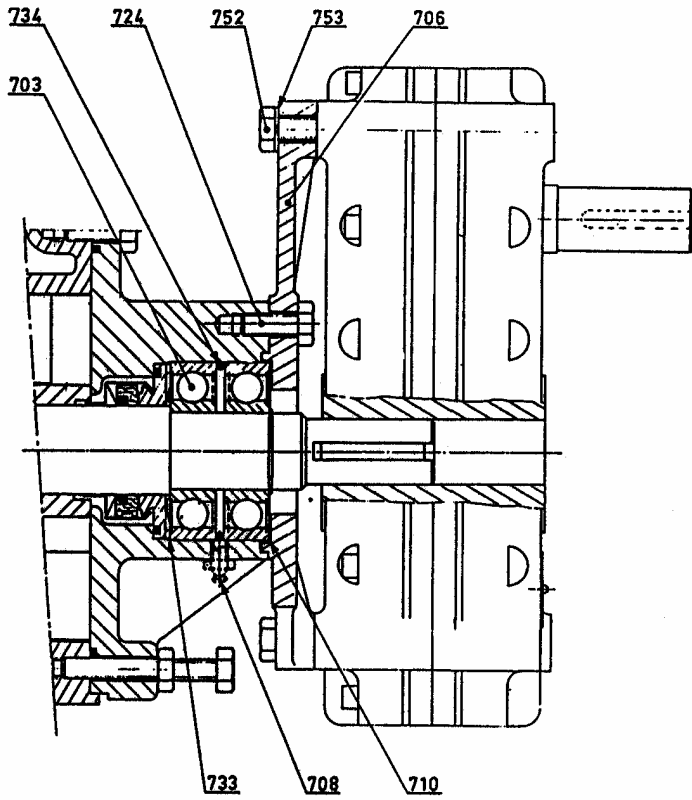


### Lubrication of bearings :

C Construction : periodic lubrication of bearings (see general Instructions).

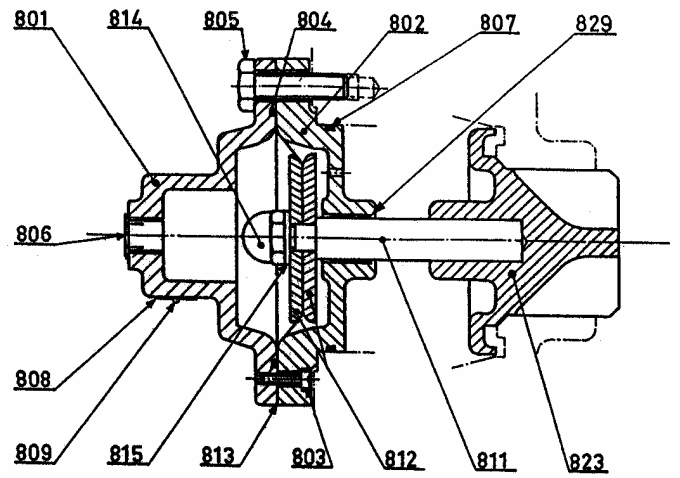




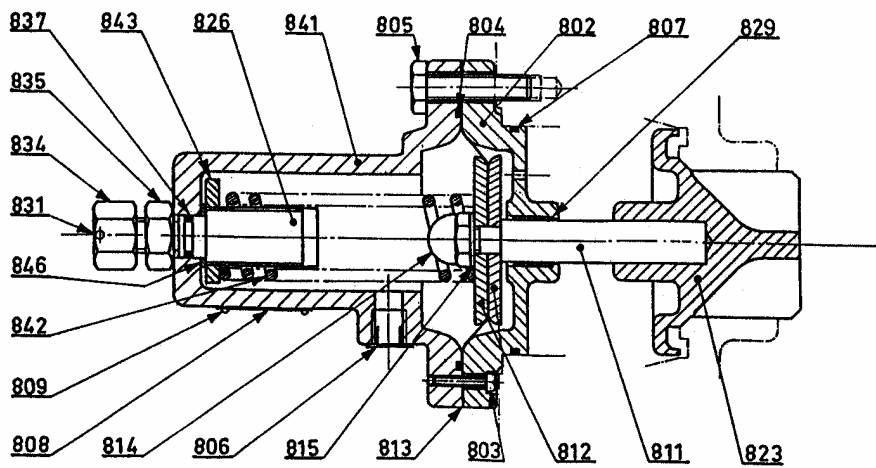


**SPEED REDUCER FLANGED ON PUMP**

**PNEUMATIC BYPASS WITHOUT SPRING**



**PNEUMATIC BYPASS WITH SPRING**



\* **Sets of parts or parts available to order.**

The Ref. corresponds to 1 piece of the reference part or set of parts.

Ex. : 1x rep. 317 = 1 vane - 1 x rep. 309 = 1 set de 6 vanes

REP.	Nb.	DESIGNATION
*098	1	SET OF SCEWS 410+411+412+723+856)
*099	1	SET OF PUMP SEALS (126+403+807)
*100	1	CASING COMPLETE
101	1	Casing
108	1	Seat bypass
115	1	Pump plate
116	2	Plate rivet
*124	1	DRAIN PLUG AND GASKET
125	3	Drain plug
126	3	Gasket see 099
*300	1	ROTOR COMPLETE
301	1	Rotor
317	6	Vane see 309
*309	1	SET OF 6 VANES 317
*400	1	END PLATE COMPLETE
401	2	End plate
403	2	Seal see 099 ou 409
404	2	Drip hole
410	8	Screw see 098
411	4	Disassembly screw see 098
412	4	Disassembly nut see 098
*409	1	SET OF 2 END PLATE SEALS 403
*500	1	SHAFT COMPLETE
501	1	Shaft
*599	1	SET OF KEYS
508	1	Key
536	1	Sliding rotor key
537	2	Retainer ring
540	1	Shaft protector
*630	2	SHAFT SEAL COMPLETE
604	2	Stationary
605	2	Stationary O-ring see 699
612	2	Cup
613	2	Rotating O-ring see 699
614	2	Thrust piece
615	6	Spring
616	2	Retainer shaft seal
*699	1	SET SHAFT SEAL O-RINGS (605+613)
		<b>C CONSTRUCTION</b>
*700	1	BALL BEARING COMPLETE
703	2	Bearing
708	2	Lubricator nipple

REP.	Nb.	DESIGNATION
*704	1	SET OF 4 BEARING S 703
*715	1	SET OF COVER SEALS 707+714
*820	1	COMPENSATED BYPASS COMPLETE
*823	1	Compensated poppet
*827	1	Bypass cap
*898	1	ADJUSTEMENT PIN ASSEMBLY
807	1	Seal Voir 899
825	1	Thrust piece
826	1	Adjustment pin
831	1	Nut split-pin see 899
834	1	Adjustment nut see 899
835	1	Lock nut see 899
837	1	Seal see 899
856	4	Cup screw see 098
*824	1	SPRING : 2.5 or 4 or 8 bar
*899	1	SET OF BYPASS SEALS (807+831+834+835+837)

## ALTERNATIVES

REP.	Nb.	DESIGNATION
*840	1	PNEUMATIQUE BYPASS WITH SPRING
802	1	Bypass Base
803	2	Screw
804	1	Seal
805	4	Fixing screw
807	1	Base seal
808	1	Plate
809	2	Plate rivet
*823	1	Valve
841	1	Bypass cap
*810	1	FITTED PUSHROD-DIAPHRAGM UNIT
811	1	Pushrod pin
812	1	Diaphragm washer
813	1	Diaphragm
814	1	Blind nut
815	1	Lockwasher
*845	1	ADJUSTING SCREW SET
826	1	Adjusting screw
831	1	Nut split-pin                      See 844
834	1	Adjustment nut                      See 844
835	1	Lock nut                                See 844
837	1	Seal                                      See 844
842	1	Spring
843	1	Spring guide
846	1	Washer
*930	1	REGULATOR
*800	1	PNEUMATIQUE BYPASS WITHOUT SPRING
801	1	Bypass cover
802	1	Bypass Base
803	1	Screw
804	1	Seal
805	1	Fixing screw
807	1	Base seal
808	1	Plate
809	1	Plate rivet
*823	1	Valve
*810	1	FITTED PUSHROD-DIAPHRAGM UNIT
811	1	Pushrod pin
812	1	Diaphragm washer
813	1	Diaphragm
814	1	Blind nut
815	1	Lockwasher

REP.	Nb.	DESIGNATION
*845	1	ADJUSTING SCREW SET
826	1	Adjusting screw
831	1	Nut split-pin
834	1	Adjustment nut
835	1	Lock nut
837	1	Seal
842	1	Spring
843	1	Spring guide
846	1	Washer
*930	1	REGULATOR
*816	1	SET OF BYPASS SEALS (804+807)
<b>C construction</b>		
*700	1	BALL BEARING COMPLETE FOR FLANGED SPEED REDUCER
703	2	Bearing
708	2	Lubricator nipple

**\* = Sets of parts or parts available to order.**

When ordering spare parts, please indicate :

- TYPE and SERIAL NUMBER of pump (stamped on pump plate).
- INSTRUCTIONS 1010-D00.
- The REFERENCE and DESIGNATION of parts required.