



INSTRUCTIONS 204 e

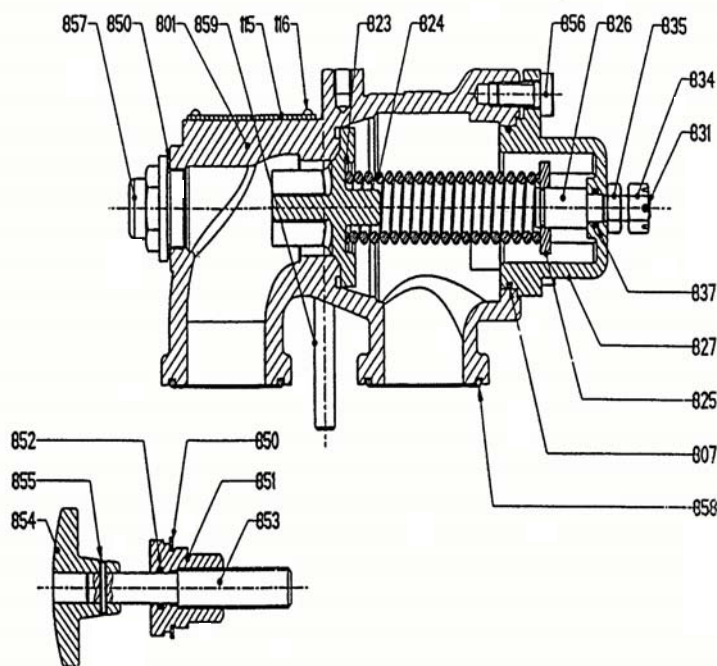
Section	
Effective	June 2005
Replaces	204 C

***Compensated bypass
Vaness pumps
P15 - P25 - P40 - P60 - P100***

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FUNCTION

The compensated bypass operates as a safety valve by automatically limiting the delivery pressure to the maximum value for which it is set.

When the delivery pressure reaches the control pressure of the spring, the valve **823** lifts, thereby permitting a partial or total return of the liquid to the intake.

Used when the pump frequently has to discharge to its bypass, i.e. when the delivery is closed, the bypass has the characteristic of creating only a very small overpressure which enables the motor to supply the appropriate increase in pressure for clearly determined working conditions. However, it must be noted that the role of the bypass as a safety device is limited to the protection of the pump against accidental overpressures.

It is absolutely essential therefore to provide suitable protection for every electric motor - unless it is capable of withstanding the increase due to the maximum overpressure (pump delivering to the bypass whose spring is compressed to the maximum).

ORIENTATION

With the exception of the double bypass designed to protect the pump in the two operating directions, the single bypass unit protects the pump only for one operating direction. It is necessary therefore to check that it is correctly oriented by ascertaining that the cover **827** is located on the intake side, and to reverse it if it is incorrectly oriented.

REVERSING

To reverse the bypass, loosen the bolts **859** and turn the bypass through 180°.

Before locking the bypass in its new position, check the state of the seals **858** and their fitting.

Tighten the bolts **859** taking care to ensure a balanced adjustment so that the bypass remains vertical.

ADJUSTMENT

To adjust the bypass, unscrew the lock nut **835**, turn the adjusting nut **834** in the clockwise direction to increase the delivery pressure, and in the anticlockwise direction to reduce it. When the adjustment has been completed, do not forget to re-tighten the lock nut **835**.

The adjustment is satisfactory when the flowrate corresponds to the intended flowrate and when the motor withstands without incident or excessive energy consumption, the increased power due to the overpressure during the closing of the delivery. This is how the bypasses of our motor-pumps sets should be adjusted according to the informations supplied to the Engineering Department.

OBTAINING THE FLOWRATE

If the flowrate is lower than the intended flowrate, this may be due to incorrect adjustment of the bypass.

To put this right, gradually tighten the adjusting nut **834** after making sure that the pump is rotating at the prescribed speed.

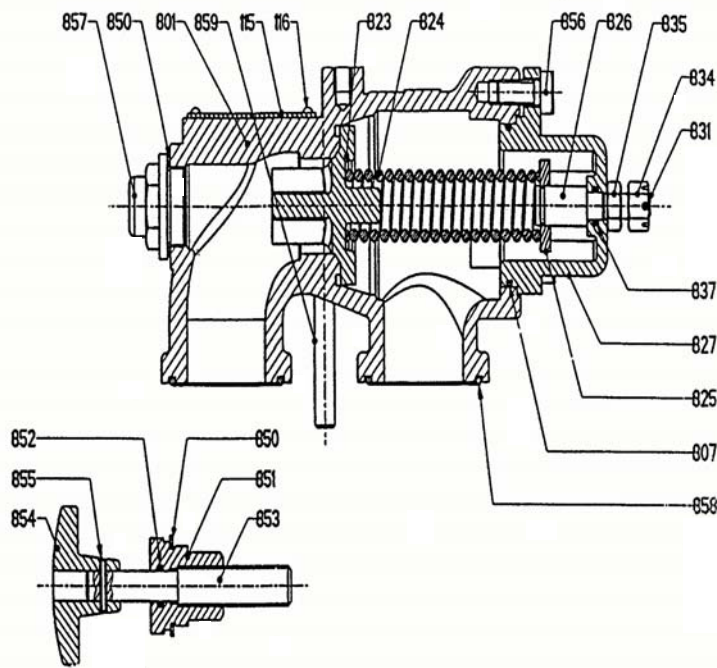
If, as a result of tightening, the spring becomes fully compressed or the operation of the motor is disturbed, without the desired flowrate being reached, this means that the set has to operate at a higher pressure than that for which it has been designed. It is necessary to consult our Engineering Department.

When the flowrate is obtained, make sure, by closing the delivery, that the motor withstands the increased power due to the overpressure without problem. Where necessary, loosen the adjusting nut **834** of the bypass slightly so as to allow the motor to attain the flowrate.

ENERGY CONSUMPTION

If the energy consumption does not correspond to the forecasts, this may be due to incorrect adjustment of the bypass.

To rectify this, close the delivery pipe and loosen the adjusting nut **834** until the consumption is satisfactory.



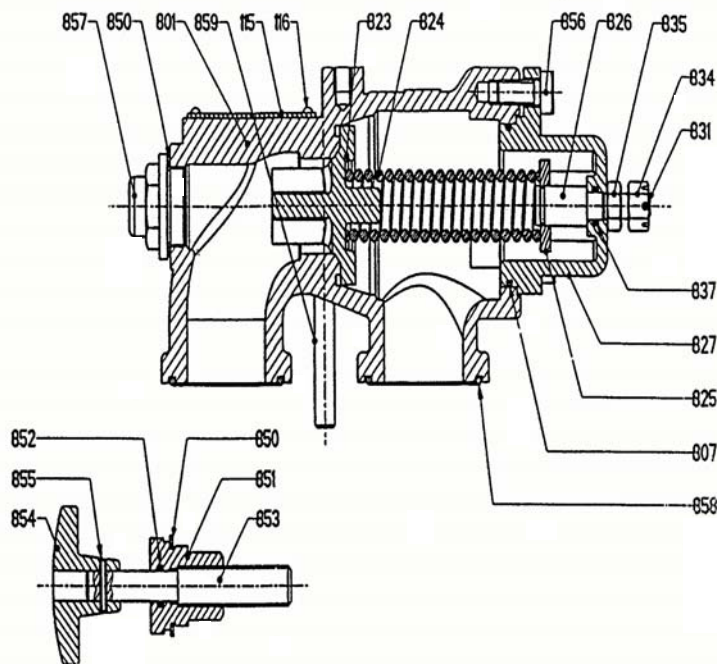
OPERATION OF THE VALVE-LIFTING DEVICE

The valve lifting device, used for the purpose of varying the delivery of the pump and taking the load off the motor of a thermal set during start-up, makes it possible, in the operating mode, to create a partial or total return of the liquid to the intake without modification of the adjustment of the spring. Under the action of the hand wheel **854**, operating in the clockwise direction, the screw **853** raises the valve **823** thus creating a branch circuit. Do not forget at the end of the operation to return the hand wheel **854** to its initial position.

PRESSURE RANGE

Point of bypass opening

PUMP TYPE	P15 - P25				P40 - P60				P100			
Spring	3	6	9	12	3	6	9	12	3	6	9	12
Adjusting min. (bar)	1,5	3	6	9	2	3,5	7	7	2	3	6	9
Adjusting max. (bar)	3	6	9	12	3,5	7	12	12	3	6	9	12



° = Assemblies and parts can be available .

Ref.	No	DESIGNATION
° 820	1	COMPENSATED BYPASS, COMPLETE (Please order reference 824 also)
115	1	Plate
116	2	Plate rivet
801	1	Bypass body
° 823	1	Compensated valve
° 827	1	Bypass cap
858	2	Bypass seal (see 899)
859	2	Fixing bolt
° 866	1	COMPLETE PLUG
850	1	Plug seal (see 899)
857	1	Bypass plug
° 898	1	ADJUSTING SCREW VALVE SET
807	1	Seal (see 899)
825	1	Spring guide
826	1	Adjusting screw
831	1	Nut pin (see 899)
834	1	Adjusting nut (see 899)
835	1	Lock nut (see 899)
837	1	Seal (see 899)
856	3	Cap screw
° 824	1	Spring no 2 (standard) - no 1, 3, 4 (option)
° 899	1	BYPASS SEALS - SCREWS SET (807+831+834+835+837+850+852+855+856+858+859)
VARIANTES		
° 870	1	LIFTING DEVICE, COMPLETE
850a	1	Seal
851	1	Nut
852	1	Nut screw
853	1	Screw
854	1	Hand wheel
855	1	Hand wheel pin
° 820	1	DOUBLE COMPENSATED BYPASS, COMPLETE The body is different from that of the compensated bypass. The O-rings 858 and the bolts 859 are identical to those of the compensated bypass. The other parts are but doubled up .
801	1	Double compensated bypass body

To order spare parts, please indicate :

- TYPE and SERIAL NO. of the pump (stamped on pump plate).
- REFERENCES and DESIGNATIONS of the desired parts. Please note that only those complete parts or assemblies whose reference is preceded by (°) can be supplied.
- Instructions NO. 204.