



## P.A. - S.p.A. - EQUIPAGGIAMENTI TECNICI DEL LAVAGGIO

VIA MILANO, 13 - CASELLA POSTALE 115 - 42048 RUBIERA (REGGIO EMILIA) - ITALY  
Tel. +39 0522 623611 - Fax. +39 0522 629600 - R.E.A. RE 156319 - R. I. RE 11535 - Mecc. RE 013446  
C.F. e P. IVA 01035950359 - Cap. Soc. i.v. € 750.000,00 - Codice Identificativo C.E.E. IT 01035950359  
ART. 2497 - BIS C.C. DIREZIONE E COORDINAMENTO BENETTI srl R.I. TRIB. DI RE 01480690351  
<http://www.pa-etl.it> - E-mail: [info@pa-etl.it](mailto:info@pa-etl.it)



### TOTAL STOP SYSTEM WITH FLOW SENSITIVE UNLOADER VALVES

In an high pressure washing plant, the use of electromechanical devices such as pressure switches and flow switches allows to assemble a particular layout, known as “total stop”, in which, at gun closure, the pump is automatically cut off and, at the subsequent gun opening, the pump is reactivated without the operator having to act on any switch.

If traditional unloader valves (pressure trapped or pressure sensitive) are used, the “total stop” system can be achieved by using indifferently pressure switches or flow switches.

If conversely, a flow sensitive unloader valve is fitted on the system, an eventual use of two pressure switches would be frustrated by the zero setting of the pressure along the whole line from the pump to the gun when the gun is closed. With this typology of valve, a total stop system can be achieved solely through the use of a flow switch. However such a flow switch must be particularly sensitive in order to be activated even by the low flow given by the water mains pressure which is in the system when the gun is opened.

For this reason PA has developed the new flow switch FL7 MS which distinguishes itself for its extreme sensibility with a minimum intervention flow of only 0.3 l/min.

**Thanks to the new flow switch FL7 MS (p/n 28.0430.00), it is now possible to assembly a total stop system even in an installation fitted with a flow sensitive unloader valve.**

The new flow switch can be fitted on various typologies of installations equipped with flow sensitive unloader valves (see figures 1, 2, 3); the only restrictions to be aware of are:

- Assembly in vertical position ( due to absence of spring)
- Water mains minimum pressure of 1.5 bar (to guarantee the minimum intervention flow even with small size nozzles)

The FL7 MS is rated for a maximum flow rate ( in pump delivery) of 60 l/min and up to a maximum pressure of 350 bar: the flow switch can therefore be used combined with the following flow sensitive valves:

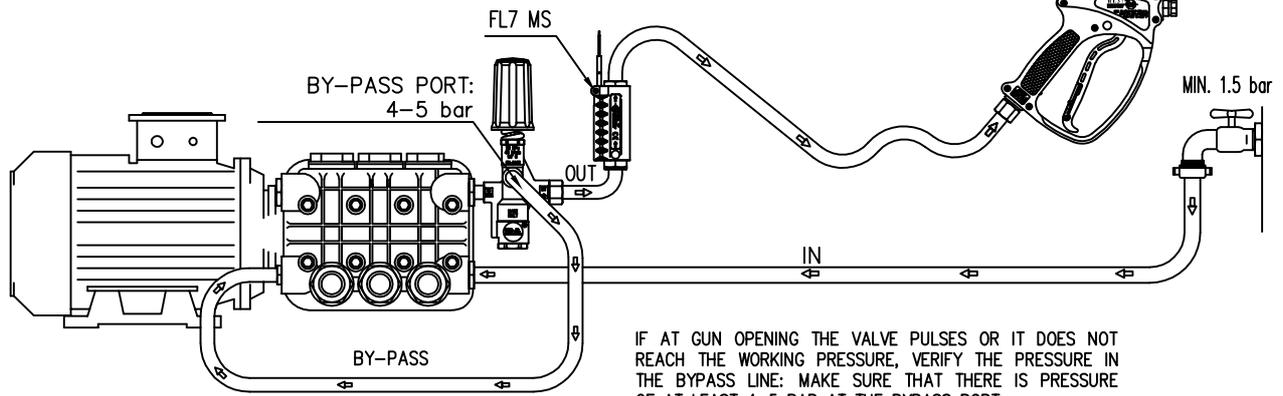
- Pulsar Zero ( 40 l/min; 280 bar )
- VB 60-250 Zero ( 60 l/min; 250 bar )

With appropriate limitations, the FL7 MS flow switch can also be used with the following flow sensitive valves:

- VB 20-160 Zero ( 20 l/min; 160 bar ) only installed like in figure 2
- VB 80-280 Zero ( limited flow at 60 l/min; 280 bar )
- VB 60-400 Zero ( 60 l/min; limited pressure at 350 bar )

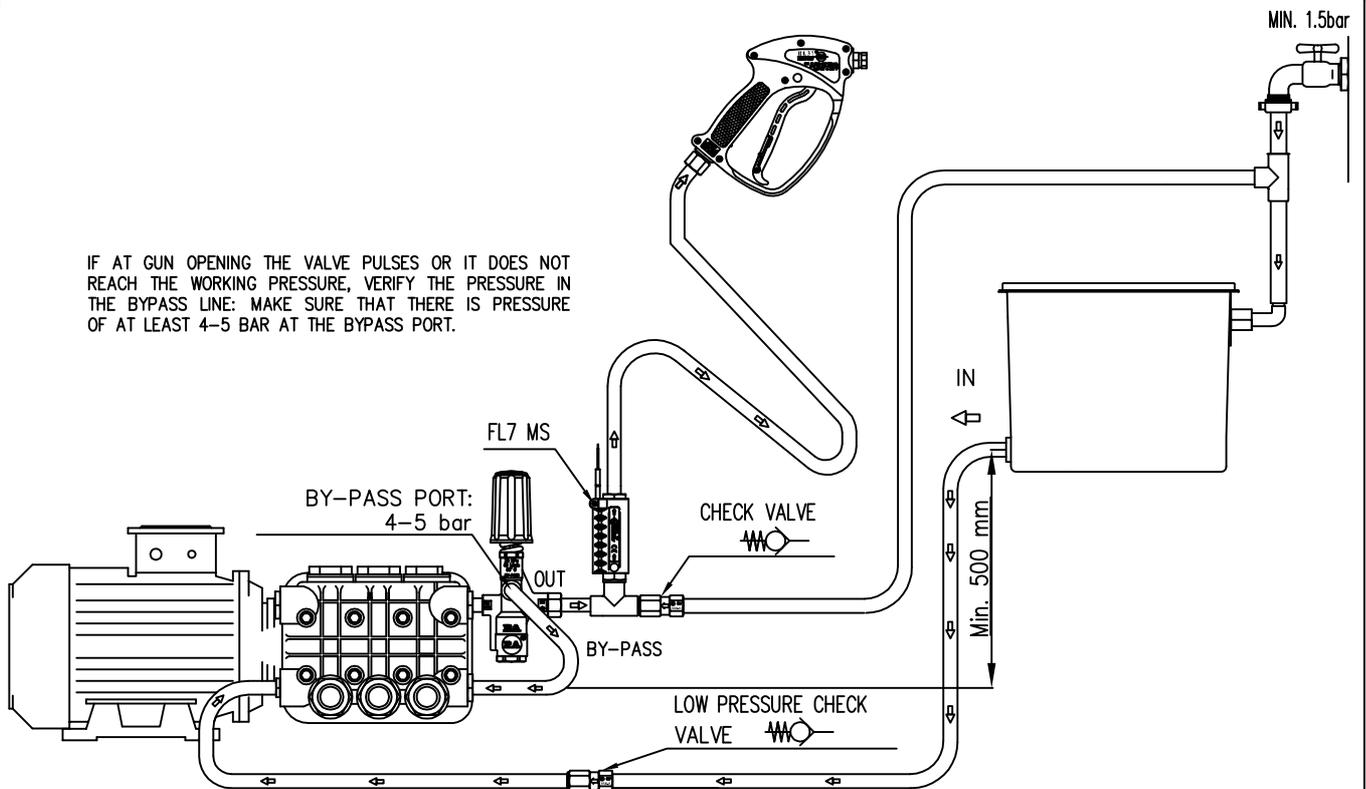


①



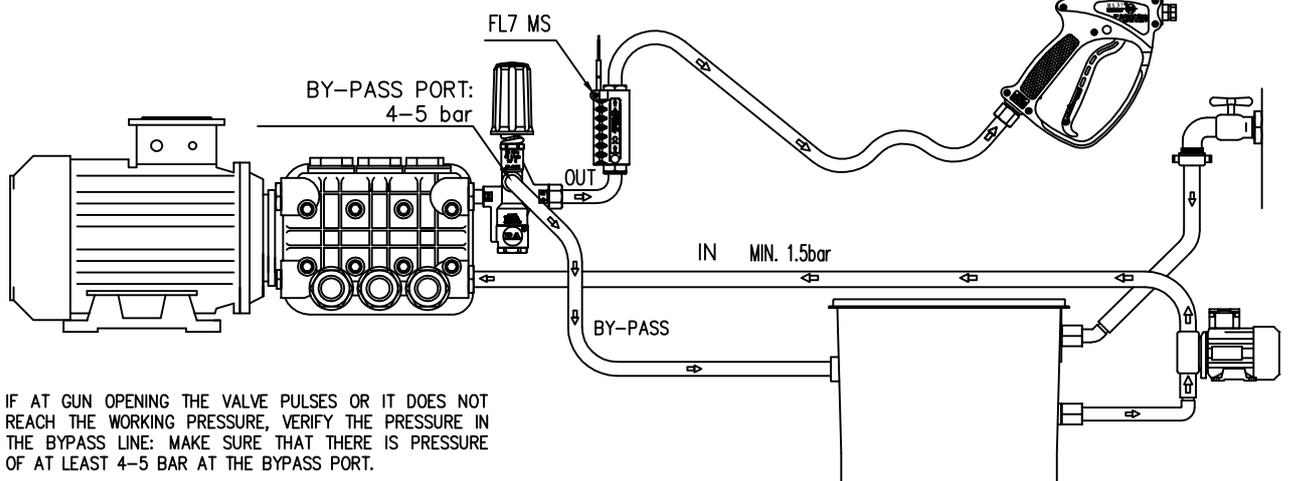
IF AT GUN OPENING THE VALVE PULSES OR IT DOES NOT REACH THE WORKING PRESSURE, VERIFY THE PRESSURE IN THE BYPASS LINE: MAKE SURE THAT THERE IS PRESSURE OF AT LEAST 4-5 BAR AT THE BYPASS PORT.

②



IF AT GUN OPENING THE VALVE PULSES OR IT DOES NOT REACH THE WORKING PRESSURE, VERIFY THE PRESSURE IN THE BYPASS LINE: MAKE SURE THAT THERE IS PRESSURE OF AT LEAST 4-5 BAR AT THE BYPASS PORT.

③



IF AT GUN OPENING THE VALVE PULSES OR IT DOES NOT REACH THE WORKING PRESSURE, VERIFY THE PRESSURE IN THE BYPASS LINE: MAKE SURE THAT THERE IS PRESSURE OF AT LEAST 4-5 BAR AT THE BYPASS PORT.