



# The Function of the MP-Series

## The Function

The MP-Series of hydraulic pressure intensifiers are reciprocating, and will automatically increase a supplied pressure to a higher end pressure.

Fig. 1 shows the basic principle of the intensifiers, consisting of a piston arrangement and a Piston Control Valve, PCV. The position of the pistons will at the end of every stroke prompt a signal S to the PCV, which makes this change position, ensuring the pistons are moving in the opposite direction. This cycle will continue until the end pressure has been reached. At this point the pistons stop, and will now only move to maintain the end pressure.

## General Data

- Material: Cast Iron and steel ( also available in stainless steel)
- Surface coating: Chromit blue finish
- Fluids: Recognised hydraulic fluids and water glycol (water and other fluids are possible)
- Filtration: 10  $\mu$  nominal, maximum 19/16 according to ISO 4406

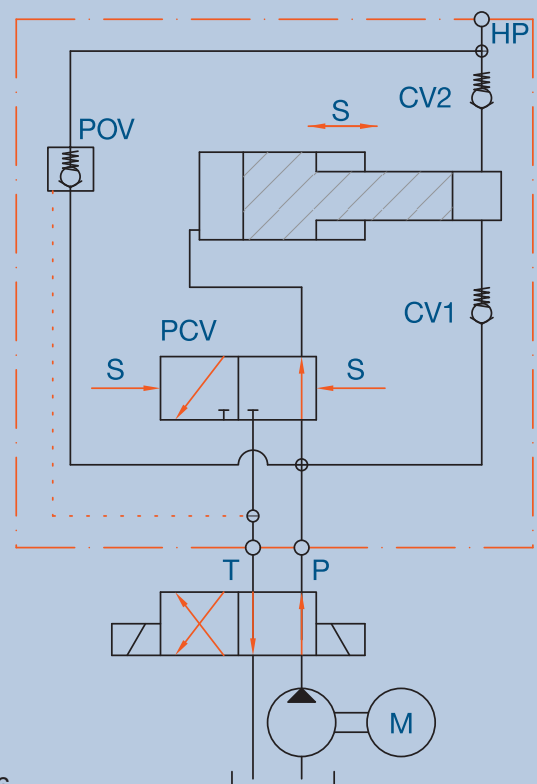


Fig. 1



## The Cycle

When a hydraulic fluid is supplied to the P-connection of the intensifier and the T-connection is connected to tank, the oil will be directed through the check valves CV1 and CV2 to the high pressure connection HP. If the internal pilot operated check valve POV is incorporated the oil will go straight to the HP connection. In this situation all the flow supplied goes to the high pressure side ensuring a fast filling of the system.

When pump pressure has been reached, the intensifier pistons will deliver the flow to the high pressure side, and continue to do so until the required end pressure has been reached. The pistons then stop, and will only move to make up for a pressure loss due to leakage or consumption. A general flow-pressure curve for the intensifier is shown in Fig.2.

For evacuating the high pressure side the internal POV is used. This valve is opened by directing the supplied pressure to the T-port and connecting the P-port to tank. This allows the oil from the high pressure side to flow directly back to tank.

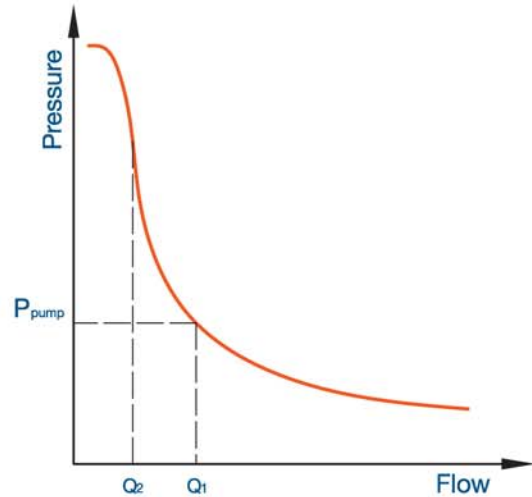


Fig. 2

# The Cycle and Overview

Intensifier Model	Mounting	Max. Inlet flow (LPM / GPM)	Max. Supply Pressure (bar / psi)	Max. Output pressure (bar / psi)	Details
MP-T 	in-line	15 / 4.0	200 / 3,000	800 / 11,600	page 4
MP-C 	cetop /NG6	15 / 4.0	200 / 3,000	500 / 7,250	page 5
MP-F 	flange on	15 / 4.0	200 / 3,000	700 / 10,150	page 6
MP-M 	in-line	35 / 9.3	200 / 3,000	800 / 11,600	page 7
MP-L 	in-line	80 / 21.2	200 / 3,000	800 / 11,600	page 8
MP-2000 	in-line	13 / 3.4	200 / 3,000	2,000 / 29,000	page 9
MPL-1400 	in-line	50 / 13.1	200 / 3,000	2,400 / 20,300	page 10
MPL-2000 	in-line	25 / 6.5	200 / 3,000	2,800 / 40,600	page 10
MPL-4000 	in-line	25 / 6.5	200 / 3,000	4,000 / 60,000	page 10