Intensifier System M- HC-011

Key features

- Automatically activated (sequence valve)
- High pressure – up to 700 bar (10,000 psi)
- Fast fill – system flows up to 100 l/ min
- Extended service life
- Robust design
- Flexible design– several boosters / intensification ratios
- Switch from by- pass to intensified flow

Description

The M- HC-011 In- line Intensifier System is designed to boost the hydraulic pressure from the pump to the workload. It operates only when needed, to save energy.

The system is dynamical by means of being able to provide flow **at** high pressure for intermittent use (< 10 min duty cycle).

The function of the system is simple, but smart. The hydraulic oil is by- passed directly from the pump to the workload at maximum flow when back pressure from the workload has reached a set point close to the maximum pressure of pump.

A sequence valve opens and directs the oil to the booster, which makes the pressure rise. The shift between maximum pump pressure and high pressure happens without intervention from the user and ensures that the workload at all times will be driven at a maximum speed in relation to the required high pressure.

A relief valve is installed to control the maximum allowable pressure that the system can output, and allowing the booster to go for a higher end pressure producing flow at the decided pressure.

Easy installation

The M- HC-011 is provided with four mounting holes for 'through- bolt' installation. The four connection ports are placed logically in pairs and in line of each other on the HIC block. All surfaces are electroplated for good protection and fine surface finish.

Typical applications

Mobile attachments (motors - steering systems - cutters - crushers - shears), off highway equipment, injection molding machines and hydraulic presses. Applicable to machines with insufficient pump capacity to prevent machine stoppage when peak pressures occur.

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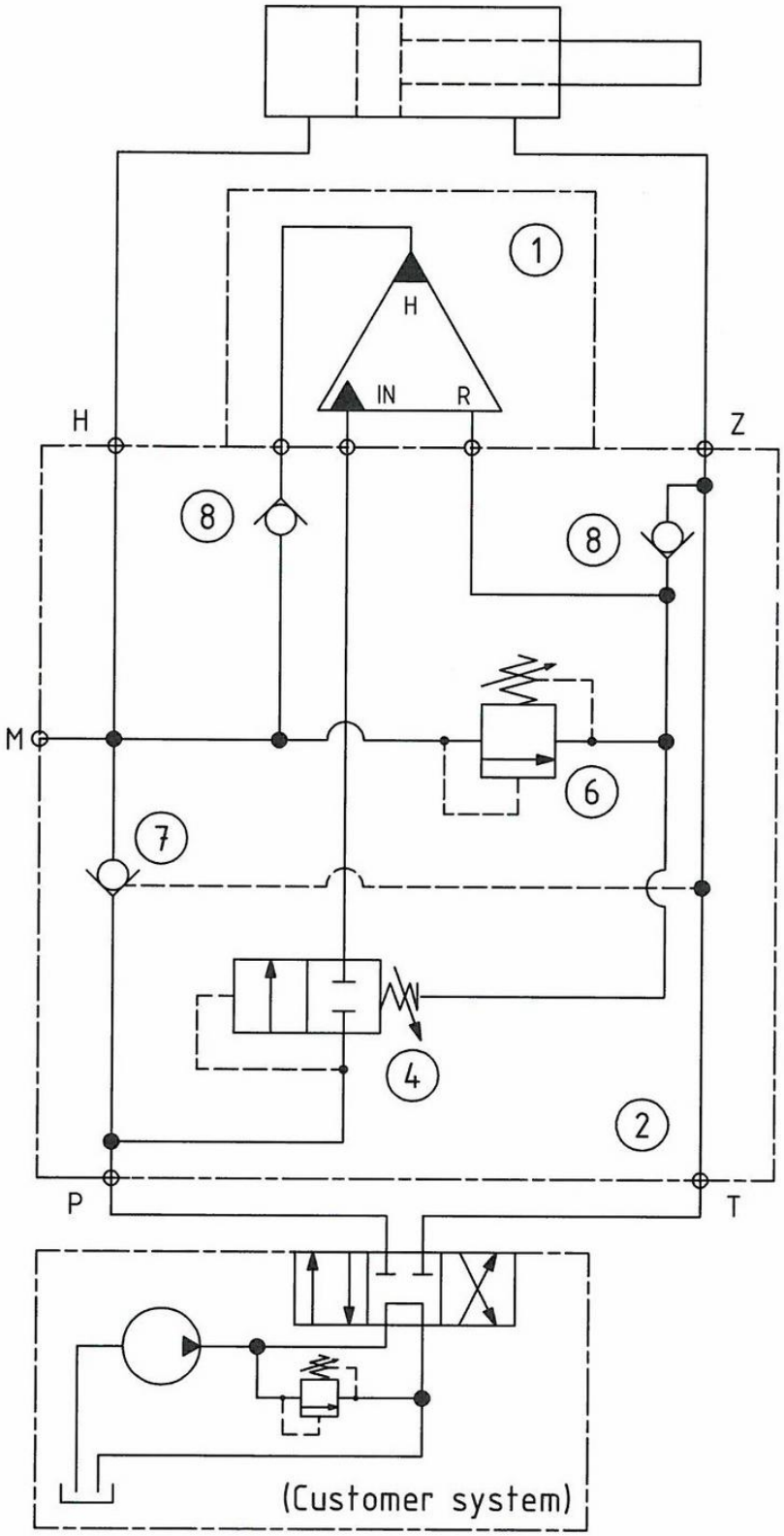
Function diagram



011-02

Port details:

P: Flow from pump.
A or B port on directional valve.

T: Flow to tank.
A or B port on directional valve.

H: High pressure port to cylinder.

Z: Low pressure port to cylinder.

M: Connection for manometer.

1: miniBOOSTER: HC___-_._-A-__

2: Manifold

4: Sequence Valve
Set: ____ bar

6: Relief Valve
Set: ____ bar

7: Pilot Operated Check Valve

8: Check Valve

Download PDF file: **011-02._Function_diagram**

Connection types

Connection	P / T	H / Z
1	1/2" BSPP	1/2" BSPP
2	3/4-16" UNF	3/4-16" UNF
F	Flange mounting	HV-399-02. Detail drawing

Max. tightening torque BSPP

	P / T	H / Z
	1/2" BSPP	1/2" BSPP
with steel washer	13.0 da/ Nm	13.0 da/ Nm
with aluminium washer	7.0 da/ Nm	–
with cutting edge	13.0 da/ Nm	13.0 da/ Nm

Max. tightening torque UNF

	P / T	H / Z
	3/4-16" UNF	3/4-16" UNF
with o- ring	3.5 da/ Nm	6.0 da/ Nm

Fluids and materials

Please see: General specifications

Ordering an M- HC-011

Type	Connection	Bypass flow	Max. pressure	Weight	Dimension drawing PDF
M- HC6D-011-1K	Tube: 1 = BSPP 2 = UNF	100 l/ min	500 bar	31.5 kg	M- HC6D-011-1K
M- HC2D-011-1L55	Tube:	55 l/ min	700 bar	11.0 kg	M- HC2D-011-1L
M- HC3-011-1L55	1 = BSPP	55 l/ min	700 bar	9.5 kg	M- HC3-011-1L
M- HC6D-011-1L55	2 = UNF	55 l/ min	700 bar	31.5 kg	M- HC6D-011-1L
M- HC2D-011- FL55	F = Flange	55 l/ min	700 bar	9.0 kg	M- HC2D-011- FL
M- HC3-011- FL55		55 l/ min	700 bar	7.5 kg	M- HC3-011- FL
M- HC2D-011- FL100- PVG32	F = Flange	100 l/ min	700 bar	9.0 kg	M- HC2D-011- FL100- PVG32
M- HC3-011- FL100- PVG32		100 l/ min	700 bar	7.5 kg	M- HC3-011- FL100- PVG32

Intensification factors

HC2D	HC3	HC6D
1,6	1,5	1,5
1,9	2,0	2,0
2,2	2,8	2,5
2,6	3,2	3,3
3,2	4,0	4,0
4,0	5,0	4,9
5,0	6,6	6,3
6,6	9,0	8,2
9,0		

The intensification factor depends on available inlet and desired outlet pressure. To calculate the initial factor, use the following formular:

i = Desired high pressure / pump pressure

Desired pressure: **500 bar**
Pump pressure: **200 bar**
i = 500 / 200 = 2.5

For static use: Select an intensification factor higher or equal to the calculated value. In this case i = 2.8 with HC3 booster. The desired pressure of 500 bar is finally adjusted with the HP relief valve.

For dynamic use: Select an intensification factor 60% higher than the calculated value. In this case i = 500 / 200 = 2.5 + 60% = **4.0** The desired pressure of 500 bar is finally adjusted with the HP relief valve.

Ordering example:

Ordering example of a M- HC-011- _ for 700 bar, connection tube BSPP with i = 2.8;

M- HC3-011-1L55 mounted with HC3-2.8- A- D Also specify valve pre- settings, see 011-02._Function_diagram