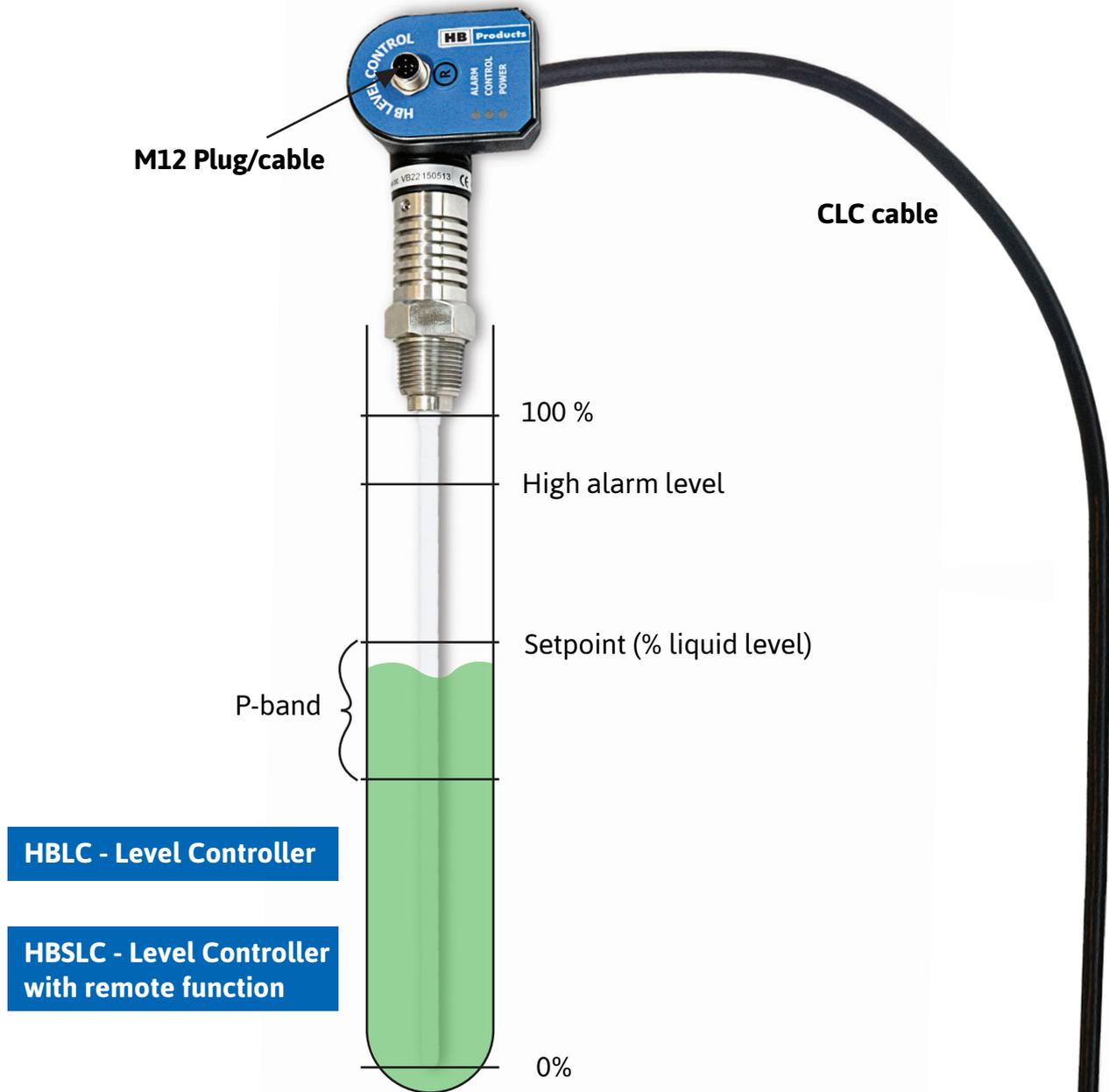




Intelligent "float" regulators with Closed Loop Valve cable increase your system surveillance



Controls Stepper motor



Controls 4-20mA modulating valves



Controls PWM (AKV) valves



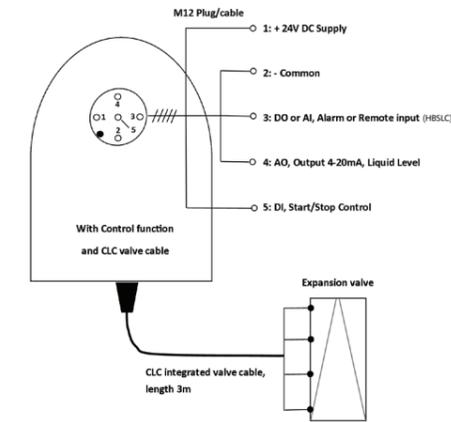
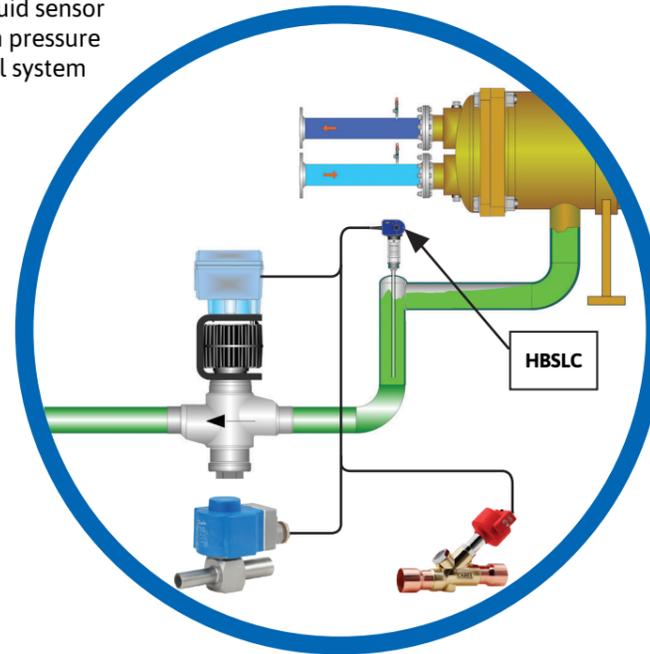
Better, smaller, and more intelligent - this is the future of the refrigeration industry!

The new way to control float regulation:

With the HBSLC level controller, the plant will be more intelligent. It will supply information about the capacity load on the system to the operator panel, in terms of the degree of valve actuation. It is a completely new way of achieving float regulation; however, the benefits are visible:

- High level alarm output (liquid back flow)
- For both Low Pressure & High Pressure systems
- Attractive price at middle and high capacity
- Analog Level output (4-20 mA)
- Feedback on valve opening (capacity load)
- 1:15 in size compared to float regulator
- For NH₃, HFC & CO₂ up to 53/140 bar

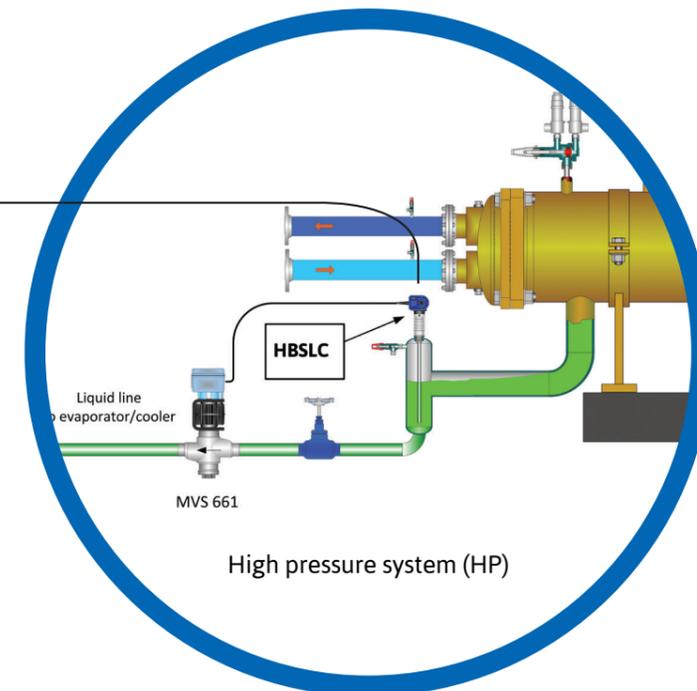
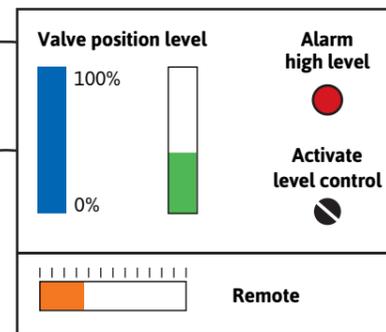
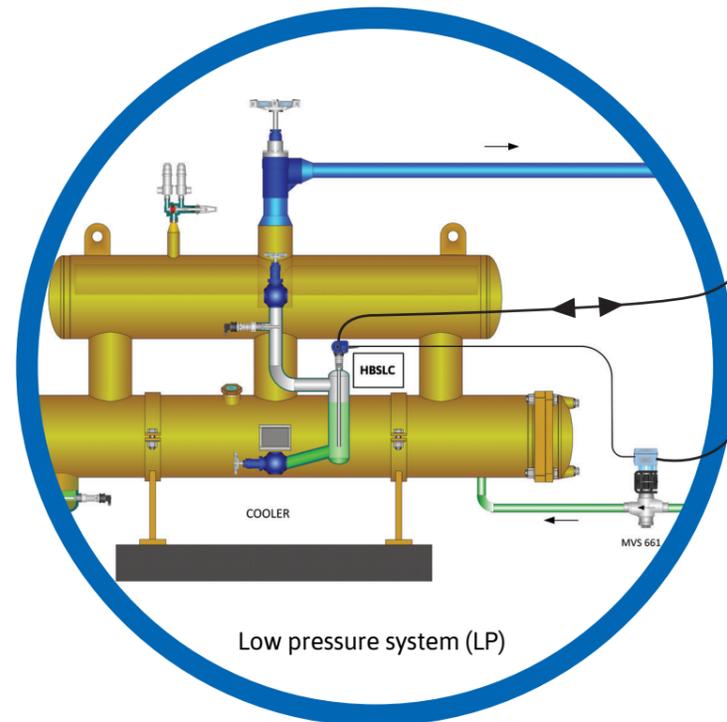
Electronic liquid sensor acts as a high pressure float control system



Flexibility in regulation parameters:

It is possible to set up and adjust:

- Set-point (adjustable with a span of 300 mm)
- P-band: 0-100 %
- Alarm level: 10-100 %
- Remote set-point function or temperature compensation



Intelligent “float” regulation

The sizes are in a ratio of approx. 1:15 compared to mechanical float regulators. Even at this size, the HBSLC level controller offers greater intelligence than any other float regulation system. The sensor has a built in alarm for high level, so that a warning is given to avoid refrigerant liquid back flow. The level sensor also incorporates a built in activation switch for the level controller, so automatic level control can be switched off. Moreover, the system allows the possibility of displaying the degree of opening of the valve.

NH₃, HFC & CO₂ “float” regulator – Up to 53/140 bar

The HBSLC level controller, in direct loop with a Siemens MVS661 valve, can handle pressures up to 53 bar. If the HBSLC sensor is connected to a Carel stepper motor, a 140 bar regulation loop can be achieved. The product is unique in the market at this pressure, making it possible to carry out level regulation in high-pressure industrial cooling systems and heat pumps at an attractive price. Both the HBSLC level controller and the Siemens valve can handle NH₃, HFC and CO₂ refrigerants. The Carel valve handles NH₃, HFC and CO₂. The HBSLC level controller is the same whether the capacity is 0 kW or 5000 kW. The variation in the level regulator is the size of the valve. Valves are available to handle capacities from 0 to 5000 kW.

Technical data - sensor

Power supply		Mechanical specifications	
Supply Voltage	24 V AC/DC + 10%	Thread connection	3/4" NPT/BSPP
Power consumption	Max 1.2W (50 mA)	Material – mechanical parts	AISI 304 / PTFE
		Material – electronic parts	PA 6 (Plast housing)
Plug connection	M12, 5 pins - DIN 0627	Dimensions	See drawing
Output		Environmental conditions	
Analogue output	4-20 mA	Ambient temperature	-30...+50°C
Alarm output	PNP, 1 A	Refrigerant temperature	-60...+80°C
LED indication	LED (green, yellow, and red)	Max pressure	140 bar
Max. possible resistance, mA loop	500 ohm	Protection degree	IP65
Cable specification		Vibrations	
M12 supply cable	PUR - 5 x 0,34 mm ²	Accessories	(to be ordered separate)
M12 supply cable, standard length	5 m (10m as an option)	Adapter - 3/4" BSPP / 1" BSPP	HBS/ADAP/8/6
CLC valve cable, mA, Stepper motor, PWM	PUR – 3 or 4 x 0,34mm ²	Adapter - 3/4" NPT / 1" BSPP	HBS/ADAP/8/2
CLC valve cable, standard length	3 m		
Approvals			
EMC test	EN 61000-2		
EAC regulation			
Configuration			
Configuration Tool	HB-TOOL (USB type)		

Ordering code

Refrigerant	Description	Length/Thread	Ordering code
NH3	Liquid Level Control Sensor for NH3	160 mm / 3/4" NPT	HBLC-NH3-1.6-2
NH3	Liquid Level Control Sensor for NH3	160 mm / 3/4" BSPP	HBLC-NH3-1.6-6
NH3	Liquid Level Control Sensor for NH3	210 mm / 3/4" NPT	HBLC-NH3-2.1-2
NH3	Liquid Level Control Sensor for NH3	210 mm / 3/4" BSPP	HBLC-NH3-2.1-6
NH3	Liquid Level Control Sensor for NH3	314 mm / 3/4" NPT	HBLC-NH3-3.1-2
NH3	Liquid Level Control Sensor for NH3	314 mm / Thread: 3/4" BSPP	HBLC-NH3-3.1-6
NH3	Liquid Level Control Sensor for NH3	400 mm / Thread: 3/4" NPT	HBLC-NH3-4-2
NH3	Liquid Level Control Sensor for NH3	400 mm / Thread: 3/4" BSPP	HBLC-NH3-4-6
NH3	Liquid Level Control Sensor for NH3	500 mm / Thread: 3/4" NPT	HBLC-NH3-5-2
NH3	Liquid Level Control Sensor for NH3	500 mm / Thread: 3/4" BSPP	HBLC-NH3-5-6



- Available as 2-wire sensor
- Now with ATEX / IECEx certificate (This version is without LED display)

Refrigerant = NH₃, (HBSLC with smart function can be used for CO₂ and HFC/HFO as well)

S = Smart function
 Sensor lengths from 160 to 500 mm
 Ordering code: HBSLC- - - - Thread type, NPT = 2 or BSPP = 6
 Valve type, C = 4–20mA, S = Stepper motor, PWM = Pulse width modulation

Other versions – ordering codes:

*Available in versions with cable for controlling of different valve types. Just add the following to the ordering code: /C = Modulating valve, 4-20mA, /S = Stepper motor, PWM = Pulse Width Modulation.

Example: **HBSLC/C-NH3-4-2**

(With cable for controlling modulating valve, Refrigerant NH₃, Length 400 mm, Thread type ¾" NPT)

*Available in a smart version with remote control. Ordering code is HBSLC instead of HBLC.

HBSLC smart function is with analog input used for remote control of the set point or temperature / pressure compensation function.

