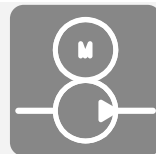


Compact hydraulic power pack type HICON

Product documentation



Operating pressure p_{\max} :	170 bar
Geometric displacement volume:	0.5 cm ³ /rev
Usable volume (tank) $V_{\text{use max}}$:	0.6 l



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Printing date / document generated on: 13.12.2021

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1 Overview of compact hydraulic power pack type HICON

Compact hydraulic power packs are a type of hydraulic power pack. They are characterised by a highly compact design, since the motor shaft of the electric drive also acts as the pump shaft. Compact hydraulic power packs are designed to supply hydraulic circuits with hydraulic fluid.

The compact hydraulic power pack type HICON's encapsulated design offers protection against temporary immersion in water according to protection class IP 67. The pump module integrates a gear pump and a brushless motor. The motor's rotation can be reversed, thus facilitating flow reversion without requiring a directional valve.

When designing the compact hydraulic power pack type HICON, particular emphasis was placed upon status monitoring. The integrated temperature switch protects the motor from overloading. Pressure-limiting valves prevent any thermal overpressure or the permissible peak pressure being exceeded should consumer travel be blocked.

Features and benefits

- suitable for nominal modes S3 (short period operation) and S1 (continuous operation with restrictions)
- 12 V to 24 V DC
- Vertical and horizontal installation possible
- Protection class IP 67
- CAN bus functionality compatible with J1939 protocol

Intended applications

- Speedboats, jet skis
- Agricultural machinery, construction machinery, commercial vehicles
- Industry
- other decentralised, mobile applications



Compact hydraulic power pack type HICON

2 Available versions

Ordering example

HICON 1E	1	H	-Z 3.0	-1J	W	-W7	-0.5/3.0	-20/170	-12 V DC-1.50 kW
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Supply voltage 12 V DC/24 V DC

Pressure setting (A/B side), ex-works setting only

Volume flow rate limit (A/B side)

without surface coating IP 67

Electrical connection: free cable end (ferrules) with 1 m cable

- CAN address: 1
- CAN protocol: J1939

2.2 "Pump"

2.1.3 "Installation position"

2.1.2 "Tank size"

2.1.1 "Basic type and size" 1 = size, E = brushless DC motor

2.1 Motor and container

2.1.1 Basic type and size

Type	Motor version	Nominal power (kW)
HICON 1E	Brushless DC motor	1.50

2.1.2 Tank size

Coding	Fill volume (l)	Usable volume (l)
1	0.370	0.300
2	0.560	0.450
3	0.750	0.600

2.1.3 Installation position

Coding	Description
H	Horizontal
V	Vertical

2.2 Pump

Miniature external gear pump

Coding	Displacement volume V_g (cm ³ /U)	Permissible pressure p_{max} (bar)	Delivery flow Q_{max} (lpm)
Z 3.0	0.5	170	3.0

3 Parameters

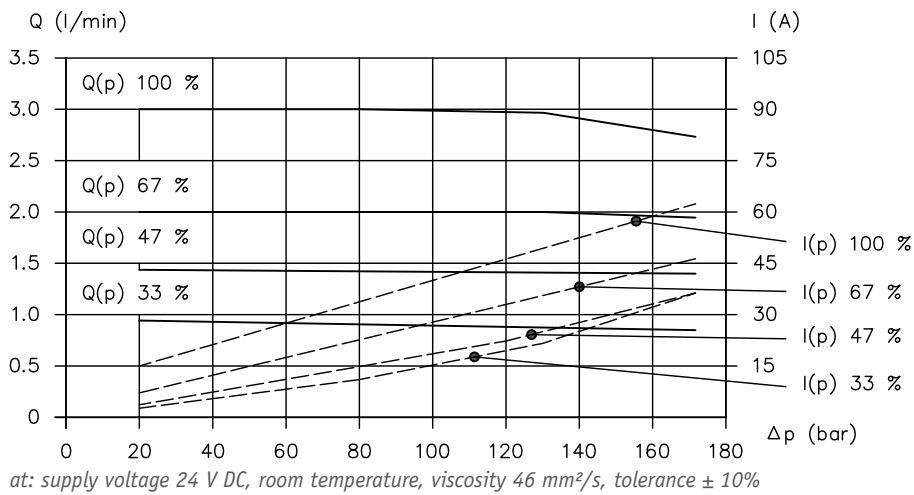
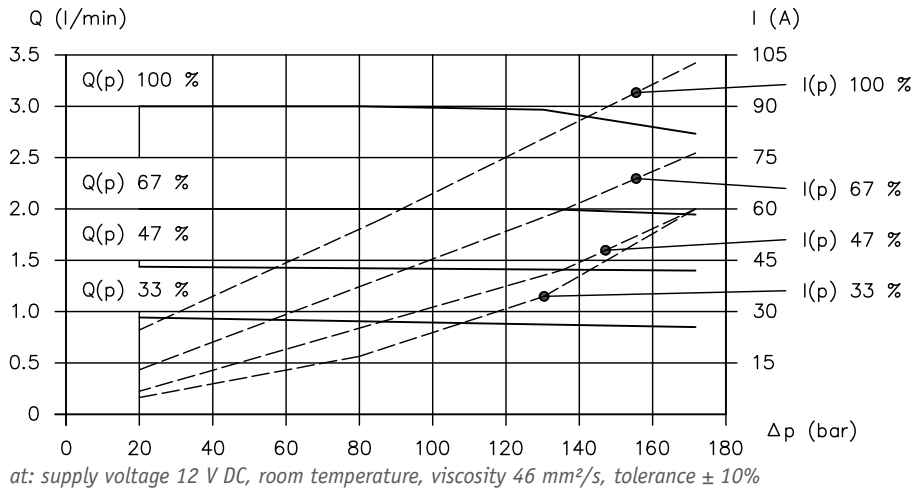
3.1 General data

Installation position	<ul style="list-style-type: none"> ▪ horizontal (mounting flange on side, hydraulic port on top) ▪ vertical (tank on top, mounting flange on side, hydraulic port on side) 		
Attachment	2 fastening holes M8		
Screws	A70 stainless steel		
Operating pressure	170 bar		
Max. flow rate	3.0 lpm		
Tank pressure	-0.5 to 1.5 bar		
Bursting pressure	625 bar		
Pressure limitation	via valves separately for A and B side from 20 to 170 bar in increments of 10 bar (tolerance +10 bar)		
Pump design	Gear pump		
Reversible	yes		
Hydraulic fluid	Hydraulic fluid, Titan CHF 11S or Titan CHF 202 Viscosity range: 10 - 500 mm ² /s		
Cleanliness level	ISO 4406 <u>20/18/15</u>		
Temperatures	Environment: approx. -25 to +77°C, hydraulic fluid: -40 to +70°C, ensure correct viscosity range		
Service life	400 operating hours		
Vibration/impact	Vibrations, sinusoidal	DIN EN 60068-2-6	sine: 3 g, 5 to 100 Hz, 3x15 h per axis
	Vibrations, broadband noise (digital control) and guidelines	DIN EN 60068-2-64	broadband: 1.4 g, 5 to 200 Hz, 3x8 h per axis
	Vibrations	DIN EN 60068-2-29	Shock (impact) 30 g, 15000 x 6 ms
	Shocks	DIN EN 60068-2-27	3 shocks at 5 g, 11 ms in each + and - direction (18 shocks)

3.2 Weight

Weight	3.5 to 4 kg without hydraulic fluid (depends on version)
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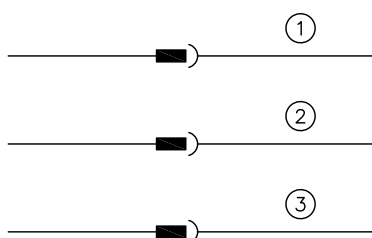
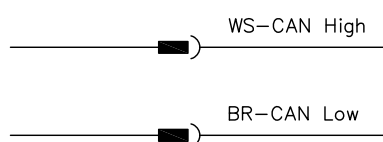
3.3 Characteristic lines



3.4 Electrical data

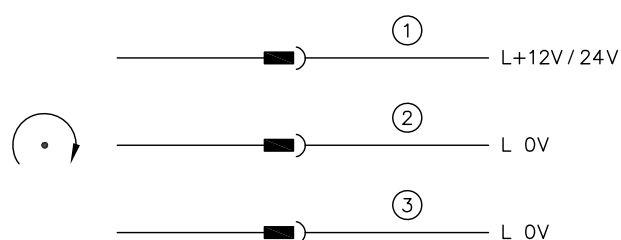
Rated voltage	12 to 24 V DC	
Current consumption	see characteristic curves, max. 105 A at 12 V or 52.5 A at 24 V	
Overload protection	Temperature switch (NTC)	
Power	1500 W	
Duty cycle	Continuous operation:	S1 at 030 bar and 1.5 lpm
	Intermittent operation:	S3 at 060 bar and 2.0 lpm and 45% duty cycle
	Intermittent operation:	S3 at 080 bar and 1.5 lpm and 25% duty cycle
	Intermittent operation:	S3 at 150 bar and 1.0 lpm and 10% duty cycle
Protection class	IP 67 according to IEC 60529	
Software control	CAN bus: Flow rate limit A and B side 0.5 to 3.0 lpm, separately to 0 to 100% open flow through A or B, when running	
Hardware control	two signal lines for 12 V or 24 V for flow through A or B	

Terminal assignment 12 V DC/24 V DC



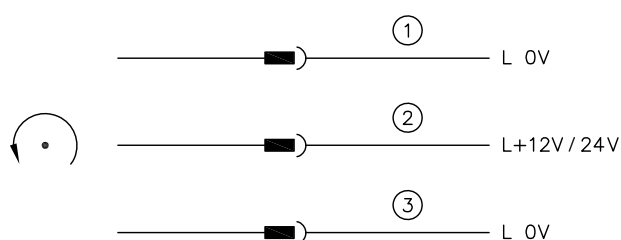
- 1 WH - signal 12 V/24 V port A flow, port B
- 2 GN - signal 12 V/24 V port B flow, port A
- 3 GY - signal GND

Flow at A and reflux at B



- 1 WH - signal 12 V/24 V
- 2 GN - signal 0 V
- 3 GY - signal GND

Flow at B and reflux at A

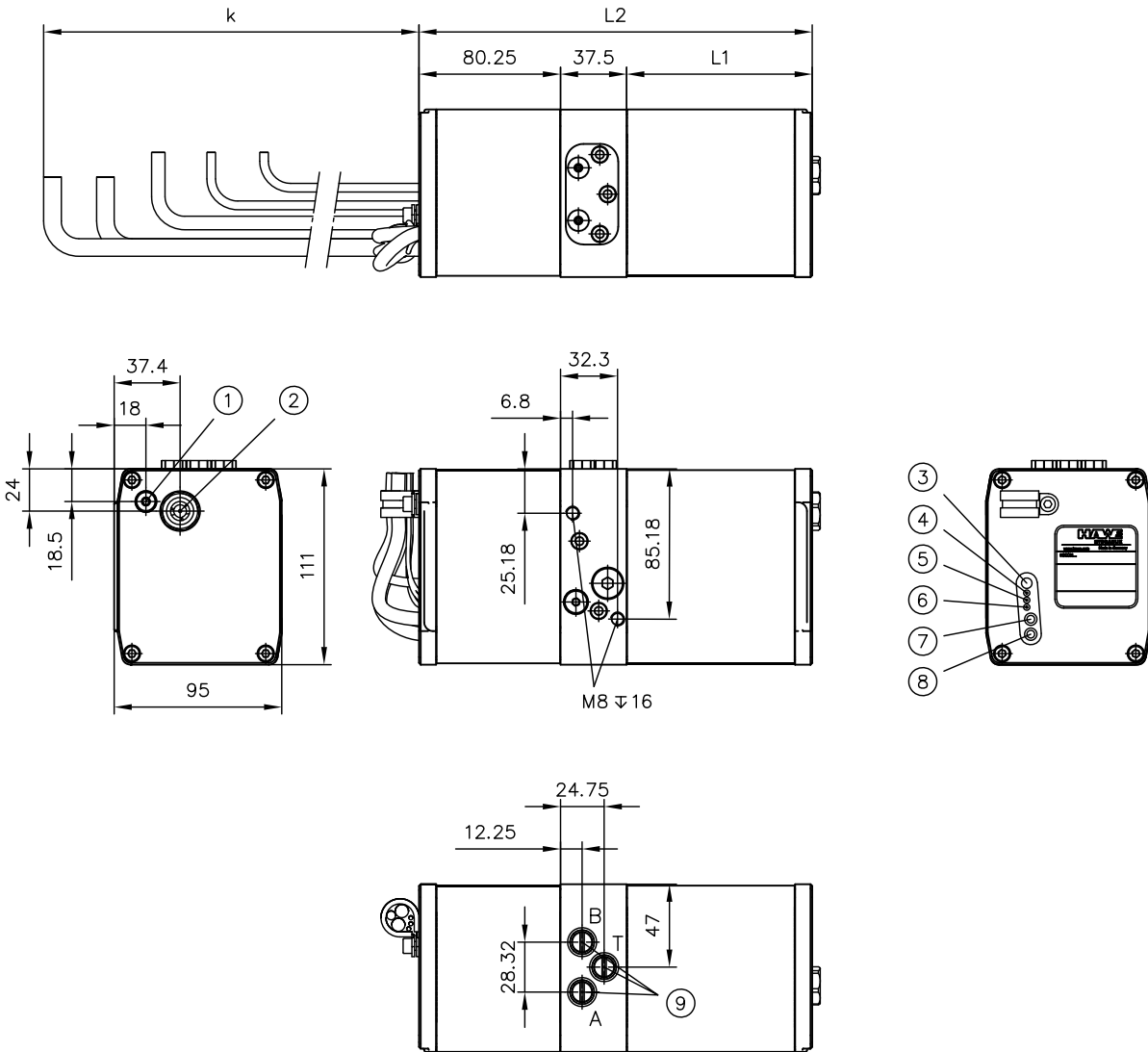


- 1 WH - signal 0 V
- 2 GN - signal 12 V/24 V
- 3 GY - signal GND

4 Dimensions

All dimensions in mm, subject to change.

4.1 Horizontal version

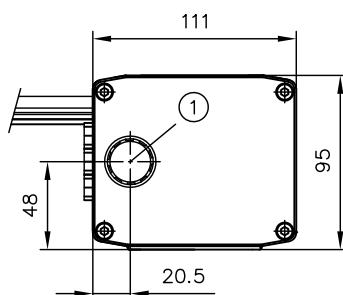
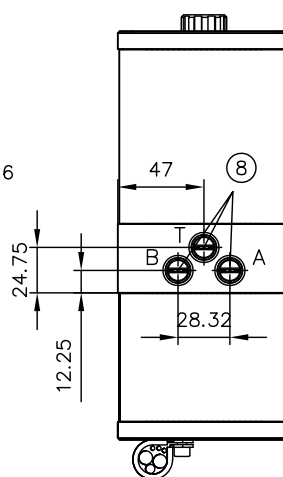
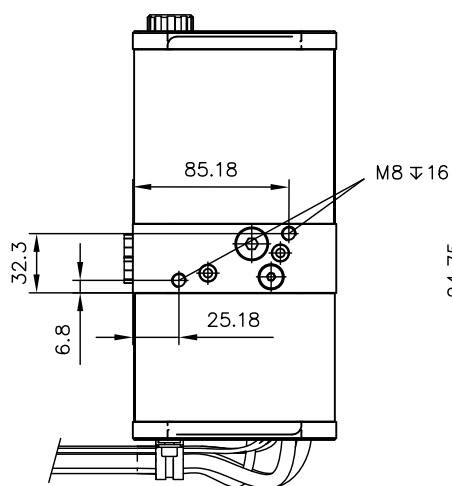
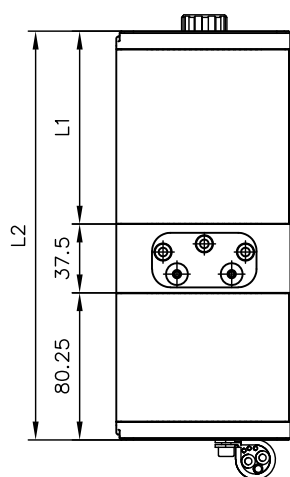
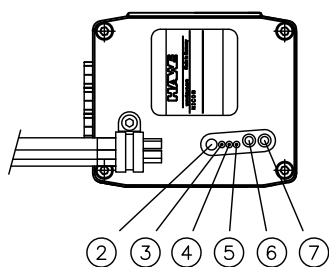


- 1 Filler screw
- 2 Oil level gauge
- 3 CAN bus line
- 4 Analogue signal GND (0 V)
- 5 Analogue signal CLOCKWISE (12 V/24 V)
- 6 Analogue signal ANTI-CLOCKWISE (12 V/24 V)
- 7 Power supply - (GND)
- 8 Power supply + (PLUS)
- 9 3x G 1/8" with plastic sealing screw

Coding Tank size	L1	L2
1	80	198
2	105	223
3	130	248

k cable length 1000 mm

4.2 Vertical version



- 1 Filler screw with oil dipstick
- 2 CAN bus line
- 3 Analogue signal GND (0 V)
- 4 Analogue signal CLOCKWISE (12 V/24 V)
- 5 Analogue signal ANTI-CLOCKWISE (12 V/24 V)
- 6 Power supply - (GND)
- 7 Power supply + (PLUS)
- 8 3x G 1/8" with plastic sealing screw

Coding Tank size	L1	L2
1	80	198
2	105	223
3	130	248

! **DAMAGE**

Reference to other document

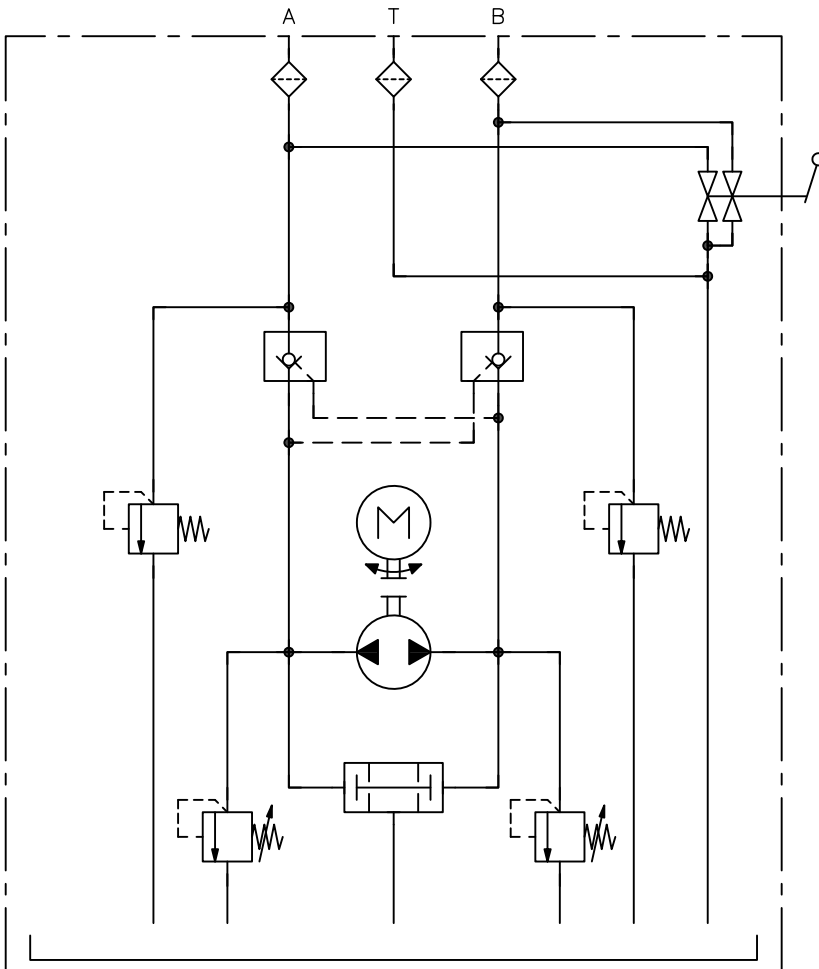
Assembly instructions for compact hydraulic power pack type HICON: B 8543

Available for this product: assembly instructions with notes on

- intended use,
- operating and maintenance,
- Assembly information

6 Other information

6.1 Circuit diagram



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