

HB-THERM[®]

CLEAN-5

Cleaning Unit

Product Information 2018-10



Cleaning Unit Clean-5

Aside from reducing flow, impurities lead to a degradation in heat transfer, and thus to a deterioration in performance.

Clean-5 removes corrosion and scale in moulds, temperature control units and hoses, and provides extended protection in storage.

It offers easy and ecological operation, prompts the user to add the respective amounts of agent, and then automatically continues its work.

...for channels to become nicely clean

Higher process reliability

- Perfect heat transfer between medium and mould
- Precise temperature control
- No blocked circuits

Longer service life

- Less component failures
- Removes corrosion and scale in the mould

...easy, intelligent and convenient

Simple operation

- Well-arranged menus in 21 languages
- Intuitive navigation
- Interactive user guidance allows use without prior knowledge
- On-the-spot instructions at the push of a button

Bright display

- Easily legible with high contrast
- Free choice of display windows and values

Convenient functions

- Calculates the exact amounts of the required agents
- Integrated logbook tracks the cleaning process
- Easy front-side sampling
- Recording of data via USB and analysis in Excel

HB-THERM	
Tu 2018-09-04, 14:38	
Cleaning	✓
Neutralisation	✓
Before Conservation	✓
Rinsing	1/3 00:09
Preservation	
Finishing	
Cleaning effectiveness	8.4 %
Main line pressure	1.5 bar
Filling volume tank	8.0 L
1 Rinsing	
Warning ▶ Add agent	
Please add 217 g or 146 ml neutralisation agent DOS N720.	
> Continue by pressing	
1 Neutralisation	

...cleans, rinses and conserves

Intensive cleaning

- Efficiently releases deposits with automatic flow reversal
- Cleans only as long as necessary

Thoroughly neutralizes and rinses

- Multiple rinsing with automated filling and draining

Sustained protection

- Conserves the cleaned surfaces
- No corrosion of moulds in storage

...safe, reliable and low on maintenance

Fully automated process monitoring

- Tracks the cleaning success

Durable construction

- Solely non-corroding materials in the hydraulic circuit
- Sealless pump in stainless steel
- Medium-separated ultrasonic fill-level measurement
- Easy-to-remove filter cage

...easy on the environment

- Uses only as much agent as necessary
- Neutralises the cleaning liquid before draining



Standard Equipment

Hydraulics	Hydraulic circuit made of non-corroding materials
	Sealless pump in stainless steel
	Medium-separated ultrasonic fill-level measurement
	Shut-off valve on front panel for sampling
	Removable filter basket (mesh size 0,2 mm)
Functions	Automatic filling and draining
	Automatic neutralisation of cleaning agent
	Conservation without disassembling
	Automatic dosing calculation of required agents
	Automatic rinsing function without disassembling
	Automatic flow reversal for cleaning, rinsing and conservation
	Mixing function of the manually added agents
Monitoring / Safety	Monitoring of the cleaning success
	Safe handling through configuration and naming of agents
	Easy monitoring of the pH value (Accessories: Test kit or pH meter)
	Lockable and abrasion resistant castors (PUR)
Command / Display	TFT-Colour display 3,5" with interactive user guidance in 21 languages
	Help button with context sensitive information
	Large choice of display windows and values
	Display of cleaning success in L/min
	Display of date and time
	Visual and acoustic alarms; volume adjustable
	Hours run counter and service interval display
	Integrated logbook for test results, average use, dilution and alarms
	Data input password protected
Interface	USB-Connection (Host/Device) for software updates, parameter transfer and data recording

Additional Equipment

ZK	Keyboard-protection	Transparent flap over display and controls
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Technical Specifications

Cleaning unit	Type		HB-CL
	Housing size		2
Pump	sealless, stainless; 0,5 kW; 30 L/min, 52 m	2M	●
Additional equipment	Keyboard-protection	ZK	○
Mains voltage	400 V (380–415 V), 50 Hz; 3LPE	405	●
	400 V (380–415 V), 60 Hz (50/60 Hz); 3LPE	406	○
	210 V (200–220 V), 50 Hz; 3LPE	215	○
	210 V (200–220 V), 60 Hz (50/60 Hz); 3LPE	216	○
	460 V (440–480 V), 60 Hz; 3LPE	466	○

Ordering example: HB-CL2-2M-ZK, 405, English

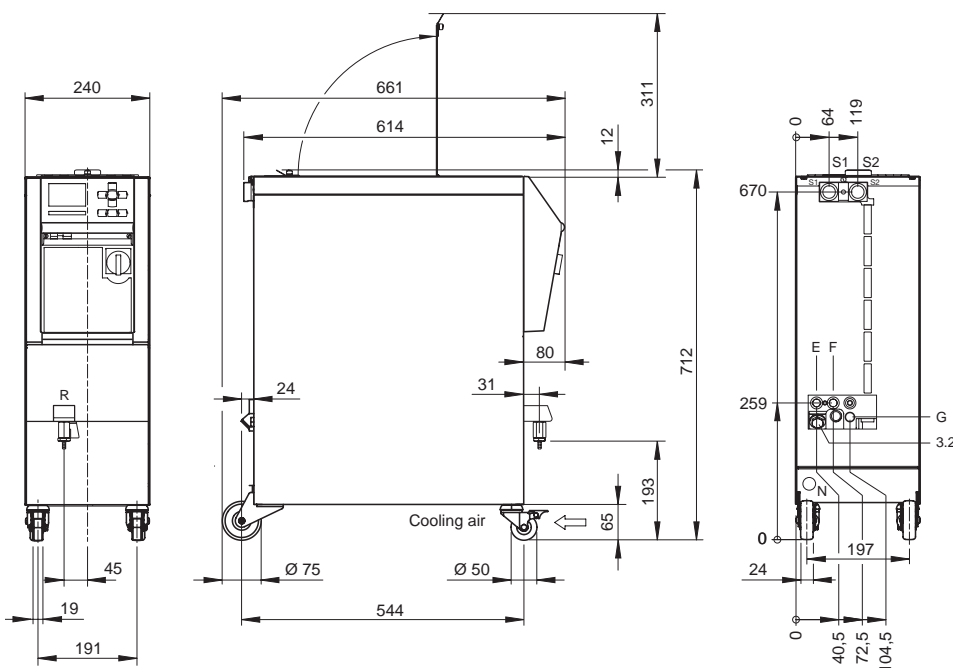
● Standard specification ○ Optional

General Technical Data

Power connection	Mains cable to unit	2,5 mm ² 3LPE, 4 m (plug on request)
	Connected load; maximum fusing	0,6 kW; 3x16 A
Dimensions	Height	712 mm
	Width	240 mm
	Depth	661 mm
Weight max.		55 kg
Tank utilization capacity		23,8 L
Connection 1, 2	Thread	G $\frac{3}{4}$
	Resistance	10 bar, 80 °C
Connection, fresh water inlet	Pressure	2–5 bar
	Thread	G $\frac{3}{8}$
	Resistance	10 bar, 60 °C
Connection, discharge water outlet	Thread	G $\frac{3}{8}$
	Resistance	10 bar, 80 °C
Drain	Thread	G $\frac{3}{8}$
Environment	Temperature	5–40 °C
	Humidity	35–85 % RH (non-condensing)
Colour	Cover	RAL 7035 (glossy light grey), RAL 5012 (glossy light blue)
	Control panel	RAL 7012 (basalt grey)
	Access cover	RAL 7021 (glossy black grey)
Protection class		IP 44
Standards		EN 12953-6, EN 50581, EN 60204-1, EN 60335-1, EN 61000-6-2, EN 61000-6-4, EN ISO 12100, EN ISO 13732-1
Certification/Approval		CE (compliance with relevant CE directives)

Dimensions

Housing size 2, scale 1:15



- | | | |
|---------------------|--------------------------|------------------------------|
| S1 Connection 1 | F Discharge water outlet | R Water sampling (Test) |
| S2 Connection 2 | G Drain | 3.2 Fresh water inlet filter |
| E Fresh water inlet | N Mains connection cable | |

Interface



Cleaning

The Clean-5 cleaning unit cleans, flushes and preserves circuits of moulds, water temperature control units and hoses. The automated flow reversal optimises cleaning success. Flushing and preservation prepare the circuits for new use or damage-free storage. Requests for the addition of the required amounts of cleaning, neutralisation and preservation agents are signalled by the unit. The cleaning process as well as the filling, flushing and draining cycles are performed automatically by the unit.

Initial Situation

- Corrosion and scaling in the circuit



Cleaning

- Automatic filling
- Addition of cleaning agent
- Cleaning with automatic flow reverse
- Dirt accumulation in filter basket
- Monitoring of the cleaning success
- Automatic circuit evacuation



Neutralisation (tank)

- Addition of neutralising agent
- Neutralisation of the tank medium
- Automatic draining of the tank

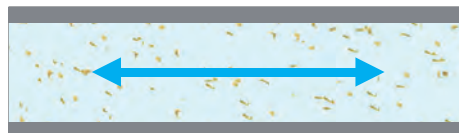
Pre-preservation

- Automatic filling
- Addition of pre-preservation agent
- Pre-preservation with automatic flow reverse
- Automatic draining (circuit and tank)



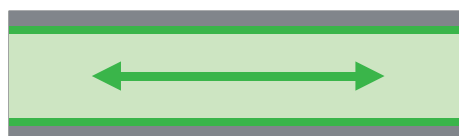
Rinsing

- Automatic filling
- Rinsing with automatic flow reverse
- Automatic draining (circuit and tank)
- Multiple programmable repetition



Conservation

- Automatic filling
- Addition of preserving agent
- Conservation with automatic flow reverse
- Optional circuit evacuation
- Automatic draining of the tank



Necessary Agents

HB-Therm cooperates with partners and provides advice for the procurement of the preferred agents for cleaning, neutralisation, treatment and preservation. Trade and application are subject to national regulations. More information → Accessories Program (D8064-EN)

HB-THERM®

Temperature Control Technology

HB-Therm worldwide.

HB-Therm is one of the leading manufacturers of temperature control units worldwide. Since 1967 HB-Therm AG has been developing and producing innovative temperature control technology to the highest quality standards. With its comprehensive know-how and motivated workforce, the company has succeeded in becoming the technology leader in its sector.

This Swiss family enterprise employs around 150 staff and has established itself as a systems supplier offering seamless customer support from machine design through to a complete after-sales service. Production is exclusively in St. Gallen. Own subsidiaries (Sales & Service) in Germany and France as well as 40 other national agencies are representing HB-Therm around the globe.

The company's quality and environmental management system is based on the continual improvement of all activities and processes and is certified to ISO 9001/14001. All its products and services are based on a philosophy of offering „Swiss-made“ quality to customers.

Customer service. Included.

With our sales and marketing network service we can offer comprehensive expert advice and assistance in:

- Optimum temperature control process
- Determination of the specification of the product and advice regarding functionality
- Electrical and hydraulic connections
- Data interfaces
- Heat transfer medium
- Servicing of the equipment

Our experts are always available for support when questions of specialist requirements or applications arise or when putting the equipment into operation, or for the operational training of your staff.

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