

Hydraulic Systems

for the operation of hydraulic brakes



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E 09.045e

Hydraulic Power Unit HKA 291

for the operation of hydraulic brakes
for a wide pressure and temperature range available



Features

- Compact design
- Optimum heat dissipation thanks to the extruded profile
- With manual hand pump function as standard
- Ambient temperature: -20 °C / +50 °C
- Flexibly expandable
- 2.7 litre oil usable volume as standard
- Electrical level and temperature monitoring and electrical thermal switch (oil temperature)

Notes

- Fastening:
4 mounting threads M8 x 15 deep

Technical Data

	Hydraulic Power Unit	
	HKA 291 S 150-160 bar	HKA 291 S 230-245 bar
Set pressure	min. 150 bar max. 160 bar	min. 230 bar max. 245 bar
Protection type	IP55	IP55
Motor power	1,6 kW	1,6 kW
Supply voltage	3x400 V at 50Hz 3x460 V at 60Hz	3x400 V at 50Hz 3x460 V at 60Hz
Oil flow rate	4,3 l/min	4,3 l/min
Tank capacity	5 l	5 l
Weight	ca. 25 kg	ca. 25 kg

Options

- Pressure switch for pressure monitoring
- Additional switching valves for special functions
- Further options can be flange-mounted in modular design, e.g. step braking, soft braking or pressure accumulator
- Control cabinet for controlled operation of the hydraulic unit manually or externally
- Terminal box

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for a wide pressure and temperature range available



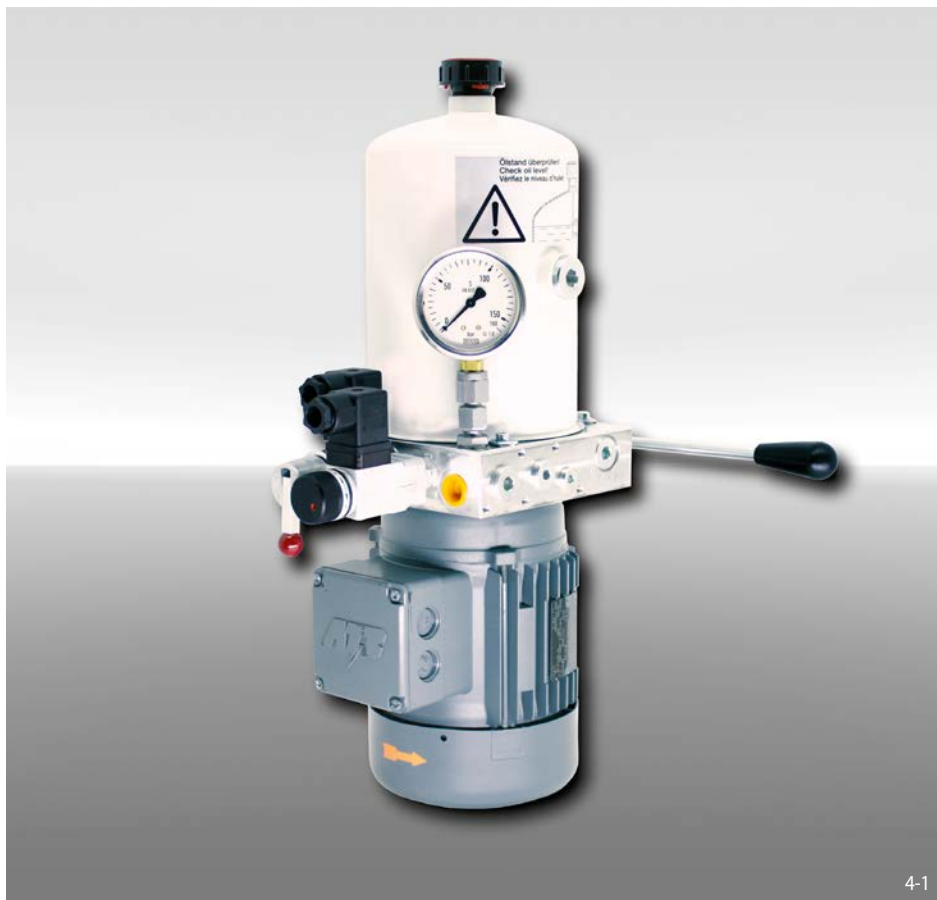
0040	Hand pump
0050	Pressure relief valve
0060	Directional seat valve with handlocking
0070	Directional seat valve
0080	Manometer
0090	Pressure switch
0100	Filter
0110	Check valve
0120	Check valve
0200	Oil level indicator and thermal switch
A	Hydraulic connection G3/8"



Hydraulic Power Unit H205M

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for the operation of hydraulic brakes
for a wide pressure range available



Features

- Compact design
- Very small dimensions because of the cylindrical design of the tank
- Optimised oil-connection of pressure side provided by two connection bores arranged in an angle of 90°
- Inside and outside of the tank is oil-resistant powder painted

Notes

- Fastening:
2 mounting threads M8 x 15 mm deep

Technical Data

	Hydraulic Power Unit							
	H205M 012-015	H205M 074-080	H205M 074-080*	H205M 145-160	H205M 160-175	H205M 180-195	H205M 210-230	H205M 230-235
Set pressure	min. 12 bar max. 15 bar	min. 74 bar max. 80 bar	min. 74 bar max. 80 bar	min. 145 bar max. 160 bar	min. 160 bar max. 175 bar	min. 180 bar max. 195 bar	min. 210 bar max. 230 bar	min. 230 bar max. 235 bar
Protection type	IP55	IP55	IP55	IP55	IP55	IP55	IP55	IP55
Motor power	0,75 kW	0,75 kW	0,75 kW	1,5 kW	1,5 kW	1,5 kW	1,5 kW	1,5 kW
Supply voltage	220-240/380-420V at 50 Hz 254-280/440-480V at 60 Hz	220-240/380-420V at 50 Hz 254-280/440-480V at 60 Hz	220-240/380-420V at 50 Hz 254-280/440-480V at 60 Hz	220-240/380-420V at 50 Hz 254-280/440-480V at 60 Hz	220-240/380-420V at 50 Hz 254-280/440-480V at 60 Hz	220-240/380-420V at 50 Hz 254-280/440-480V at 60 Hz	220-240/380-420V at 50 Hz 254-280/440-480V at 60 Hz	220-240/380-420V at 50 Hz 254-280/440-480V at 60 Hz
Oil flow rate	4,4 l/min	4,4 l/min	4,4 l/min	4,4 l/min	4,4 l/min	4,4 l/min	3,7 l/min	3,7 l/min
Tank capacity	2 l	2 l	2 l	2 l	2 l	2 l	2 l	4 l
Weight	ca. 16 kg	ca. 16 kg	ca. 16 kg	ca. 16 kg	ca. 16 kg	ca. 16 kg	ca. 16 kg	ca. 20 kg

* with 230 V switching valves

Options

- Pressure switch for pressure monitoring
- Additional switching valves for special functions
- Further options can be flange-mounted in modular design, e.g. step braking, soft braking or pressure accumulator
- Control cabinet for controlled operation of the hydraulic unit manually or externally
- Terminal box

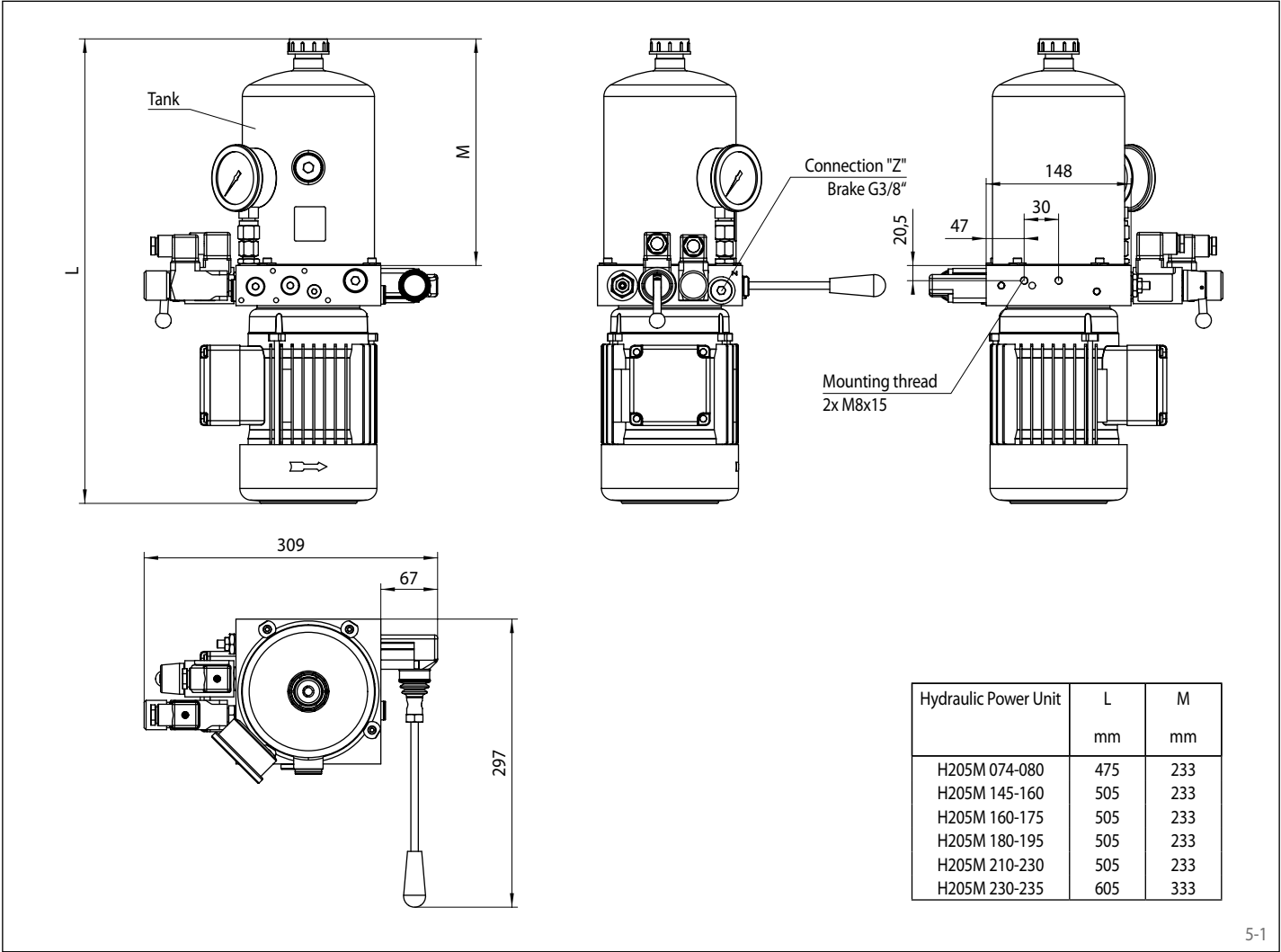


Examples: Modular design with flange-mounted function block and storage tank

Hydraulic Power Unit H205M

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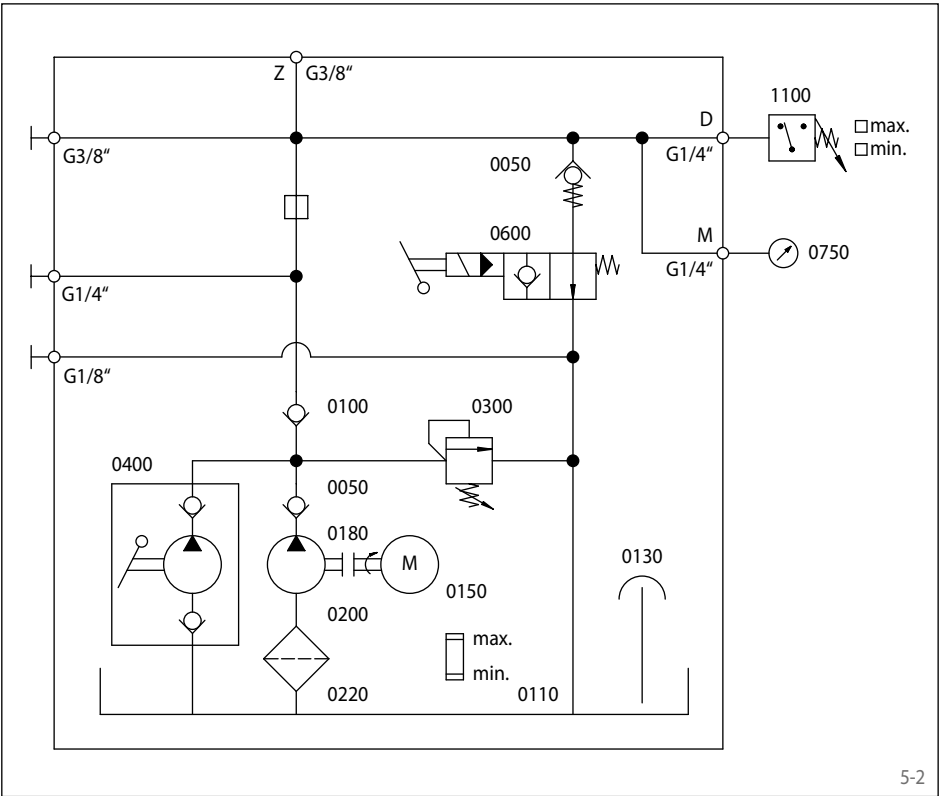
for the operation of hydraulic brakes
 for a wide pressure range available



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Hydraulic circuit diagram

- 0050 Check valve
- 0100 Check valve
- 0110 Tank
- 0130 Filling and release screw
- 0150 Electric motor
- 0180 Coupling
- 0200 Pump
- 0220 Suction filter
- 0300 Pressure relief valve
- 0400 Hand pump
- 0600 2/2-way seat valve
- 0750 Manometer
- 1100 Pressure switch
- Z Hydraulic connection G3/8"



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Hydraulic Power Unit HCO2R

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for the operation of hydraulic brakes
for applications with simple control tasks



Working conditions

- Ambient temperature -20 °C / +40 °C
- Air humidity <90%

Monitoring switch

- The oil pressure builds up when the motor is switched on
- The pressure switch enables the motor to be switched off when the release pressure is reached
- The seat-valve opens, when electric power supply is interrupted. The system pressure will be released.
- With integrated control cabinet

Notes

- Fastening:
4 screws M10 class 8.8 (optional)

Technical Data

	Hydraulic Power Unit			
	1,3 l/min - 230 bar	2,4 l/min - 120 bar	2,4 l/min - 180 bar	3,7 l/min - 230 bar
Max. pressure	250 bar	140 bar	200 bar	250 bar
Protection type	IP55	IP55	IP55	IP55
Motor power	0,55 kW	0,55 kW	1,5 kW	1,5 kW
Supply voltage	400VAC 50 Hz	400VAC 50 Hz	400VAC 50 Hz	400VAC 50 Hz
Oil flow rate	1,3 l/min	2,4 l/min	2,4 l/min	3,7 l/min
Tank capacity (of which usable volume)	2,5 (2) l	2,5 (2) l	2,5 (2) l	2,5 (2) l
Weight	20 kg	21,3 kg	21,3 kg	22,5 kg

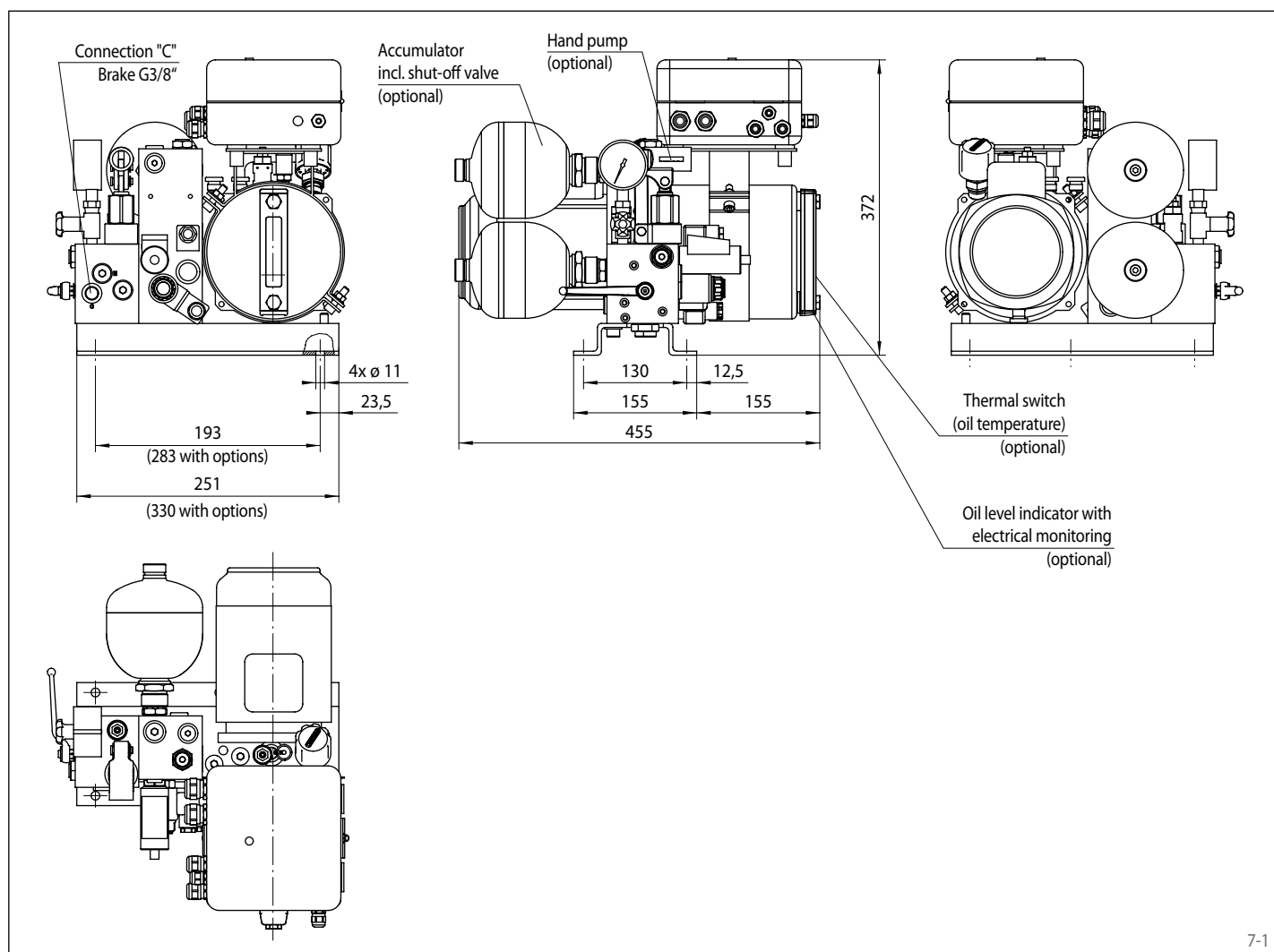
Options

- Check valve redundancy
- Emergency lowering functions
- Special input voltage
- Thermal switch (oil temperature)
- Hand pump block with 3-way valve
- Oil filter block
- 3-way valve
- Controlled oil heater
- Accumulator
- Shut-off valve
- Oil level indicator with electrical monitoring

Hydraulic Power Unit HCO2R

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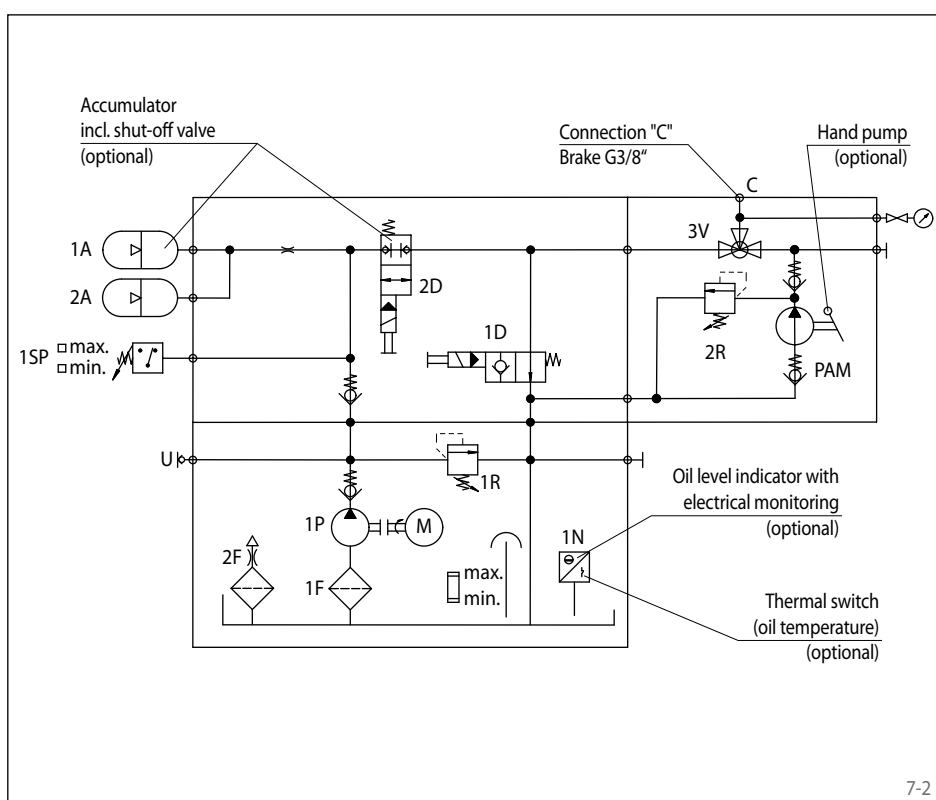
for the operation of hydraulic brakes
for applications with simple control tasks



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Hydraulic circuit diagram

- 1A Accumulator (optional)
- 1D 2/2-way valve
- 1F Suction filter
- 1N Oil level indicator with electrical monitoring (optional)
- 1N Thermal switch (optional)
- 1P Pump
- 1R Pressure relief valve
- 1SP Pressure switch
- 2A Accumulator (optional)
- 2D Shut-off valve (optional)
- 2F Filter
- 2R Pressure relief valve (optional)
- 3V 3-way valve (optional)
- C Hydraulic connection G3/8"
- PAM Hand pump (optional)
- U External connection G1/4"



7-2

Hydraulic Power Unit HTP3

for the operation of hydraulic brakes
for fast response times equipped with pressure accumulator



Working conditions

- Ambient temperature -20 °C / +40 °C
- Air humidity <90%

Monitoring switch

- The oil pressure builds up when the motor is switched on
- The pressure switch enables the motor to be switched off when the release pressure is reached
- The seat-valve opens, when electric power supply is interrupted. The system pressure will be released.

Notes

- Fastening:
2 mounting threads M10 x 12 mm deep

Technical Data

	Hydraulic Power Unit		
	HTP3-200	HTP3-200b*	HTP3-250b*
Max. pressure	200 bar	200 bar	250 bar
Protection type	IP55	IP55	IP55
Motor power	0,75 kW	0,75 kW	1,1 kW
Supply voltage	400VAC 50Hz	400VAC 50Hz	400VAC 50Hz
Oil flow rate	1,7 l/min	1,7 l/min	2,4 l/min
Tank capacity (of which usable volume)	2,5 (2) l	2,5 (2) l	2,5 (2) l
Weight	16 kg	18 kg	20 kg

* with terminal box and control

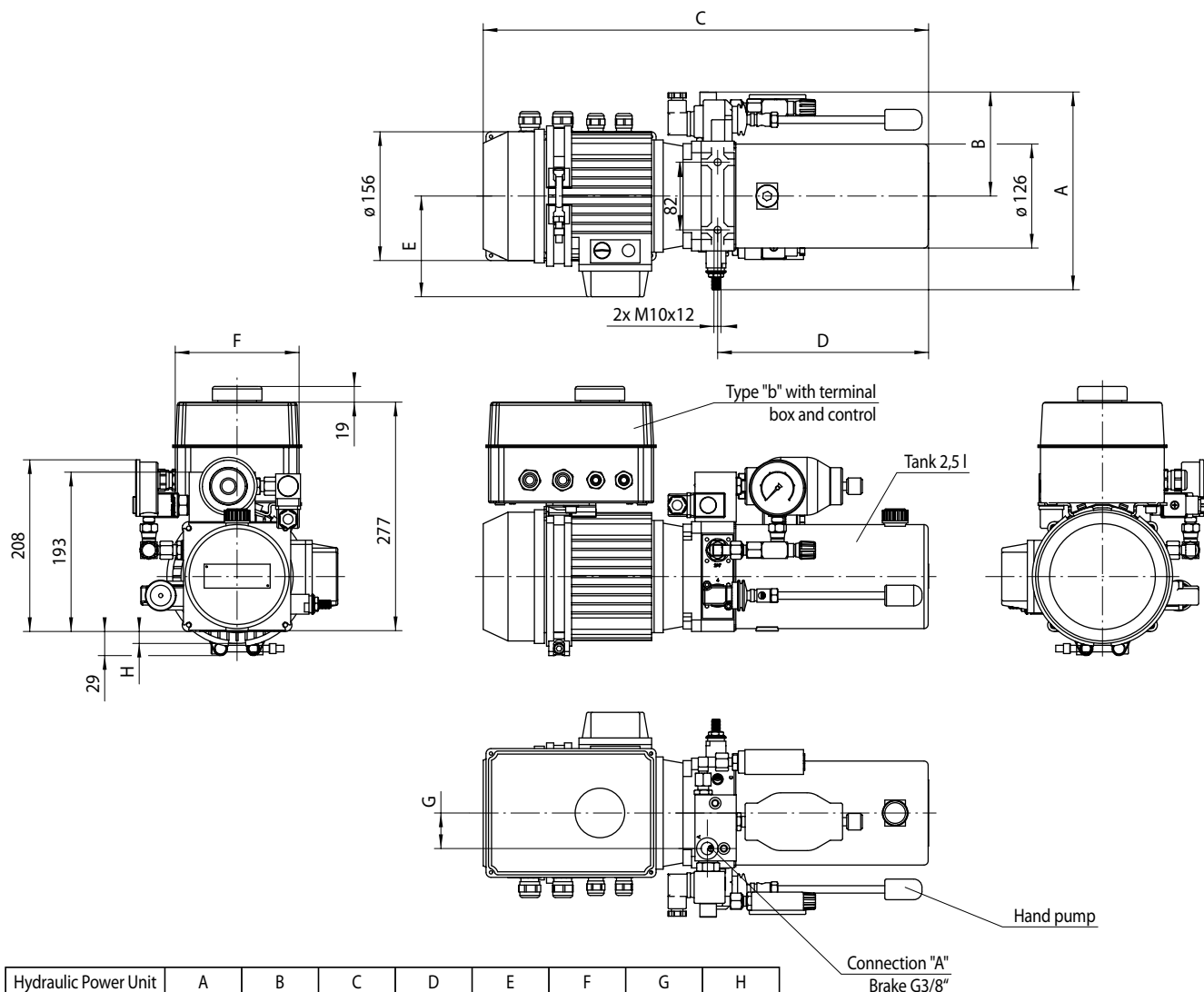
Options

- Oil drip tray
- Stainless steel cover

Hydraulic Power Unit HTP3

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for the operation of hydraulic brakes
for fast response times equipped with pressure accumulator

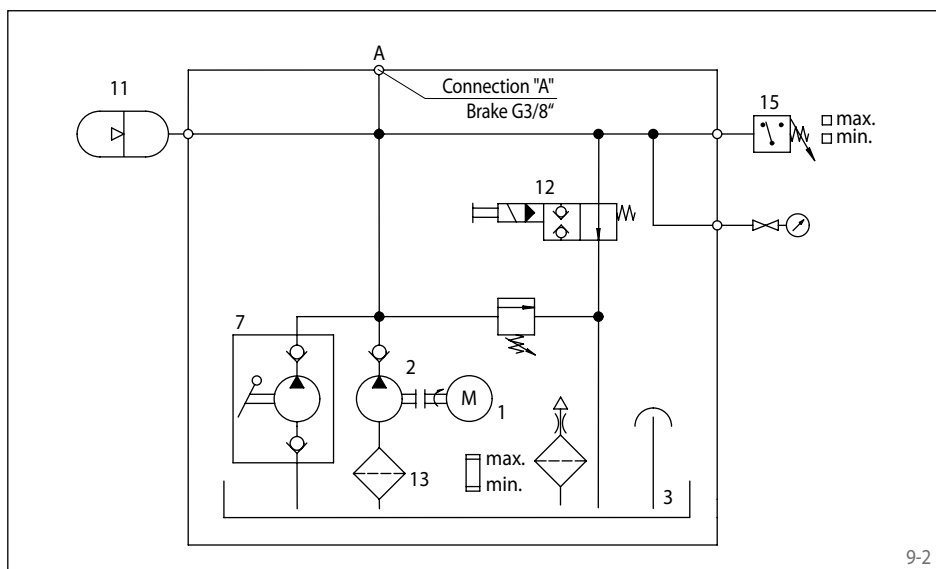


Hydraulic Power Unit	A	B	C	D	E	F	G	H
	mm	mm	mm	mm	mm	mm	mm	mm
HTP3-200	240	126	539	255	122	-	45,5	14,5
HTP3-200b	240	126	539	255	122	150	45,5	14,5
HTP3-250b	249	136	553	256	116	200	33,5	13,0

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Hydraulic circuit diagram

- 1 Motor
- 2 Pump
- 3 Tank
- 7 Hand pump
- 11 Accumulator
- 12 2/2-way valve
- 13 Filter
- 15 Pressure switch
- A Hydraulic connection G3/8"



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2-Stage Brake Control BCS 050

for spring activated - hydraulically released brakes
compact, integratable hydraulic extension



10-1

Description

The braking system „2-Stage Brake Control BCS 050“ controls the effective braking force of spring-operated, hydraulically released brakes. It allows a fast bypassing of the air gap between the brake pad and the brake disc, followed by a braking process with a reduced braking force for an adjustable period of time. After the stopping process the system provides the full force of the brake for a safe holding of the load.

The compact design makes the system fully retrofittable. It can be used independently of the hydraulic power unit in operation. Retrofitting is possible at any time. Even with existing braking systems, the braking process can be adjusted as required in order to avoid undesirable shock loads caused by the brake.

Technical data

Brake opening pressure	min. 50 bar max. 250 bar
Maximum system pressure	250 bar
Adjustable starting force ¹⁾	20 ... 80 %
Pressure holding time ²⁾	5 ... 20 s
Maximum oil volume ³⁾	270 cm ³
Viscosity range	10 ... 500 mm ² /s
Weight	ca. 5 kg

¹⁾ Time until the maximum force of the brake is reached

²⁾ Based on the maximum force of the brake

³⁾ Volume for opening all connected brakes

Working conditions

- Ambient temperature -10 °C / + 50 °C
- Air humidity < 90 %

Notes

- Fastening:
 - 2 x M8 through hole for screw (L = 78 mm)
 - 2 x M10 Floor screw connection (L = 15 mm)

Options

- Pressure monitoring memory via manometer (switch-on point monitoring)
- Mounting with brake on bracket (only possible with selected brake sizes)



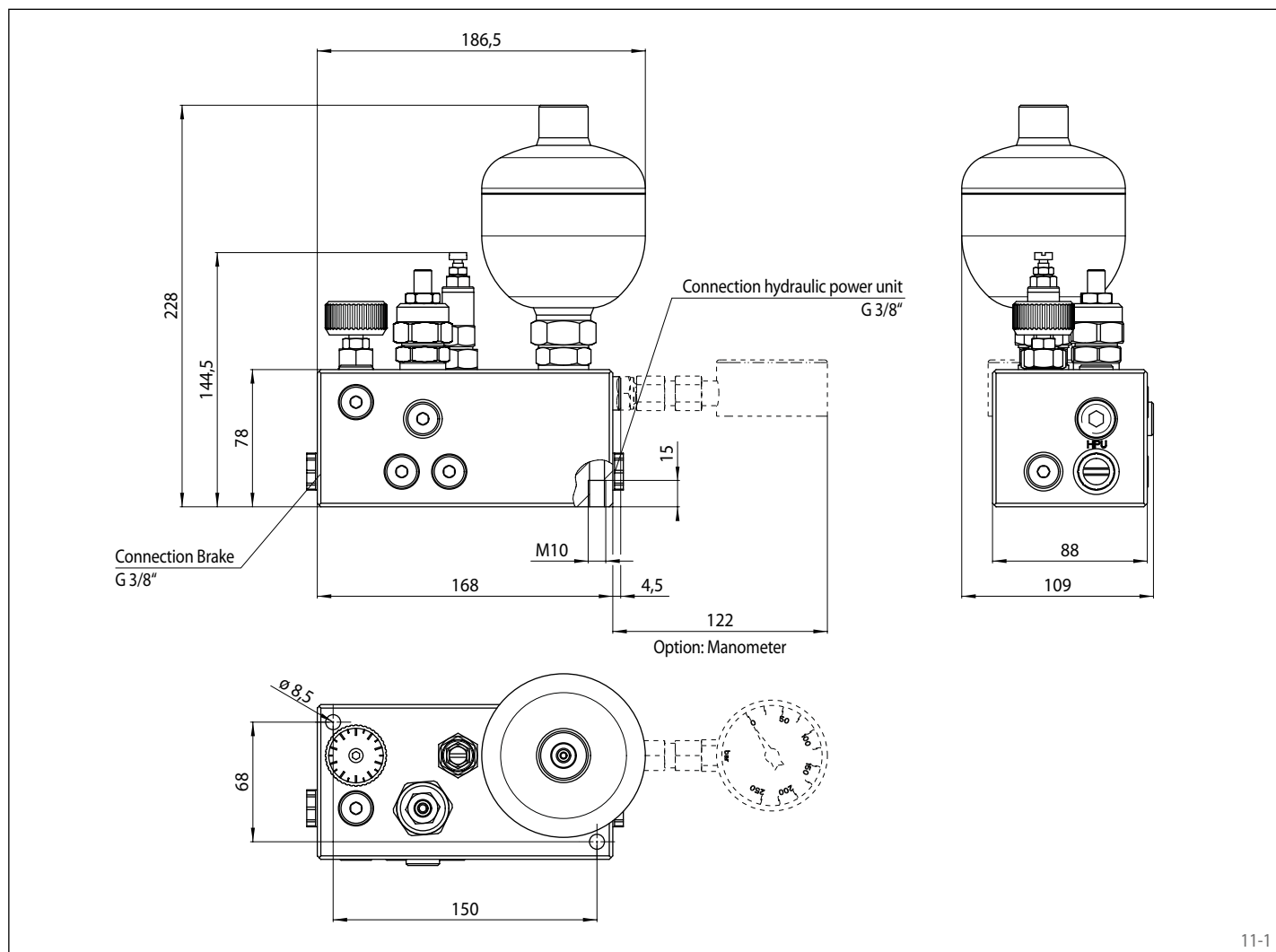
10-2

Example: Mounting with brake on bracket

2-Stage Brake Control BCS 050

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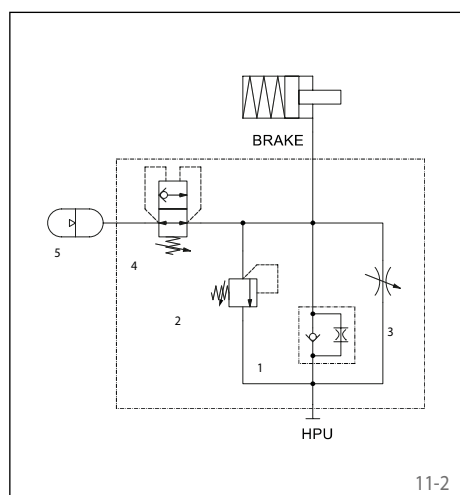
for spring activated - hydraulically released brakes
compact, integratable hydraulic extension



11-1

Hydraulic circuit diagram

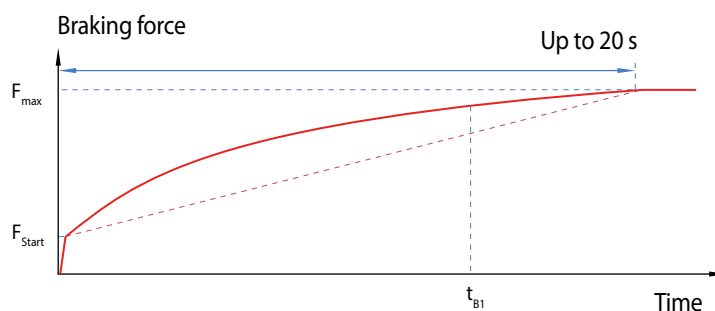
- 1 Check valve with orifice
- 2 Pressure relief valve
- 3 Throttle
- 4 Pressure controlled shut-off valve
- 5 Pressure accumulator



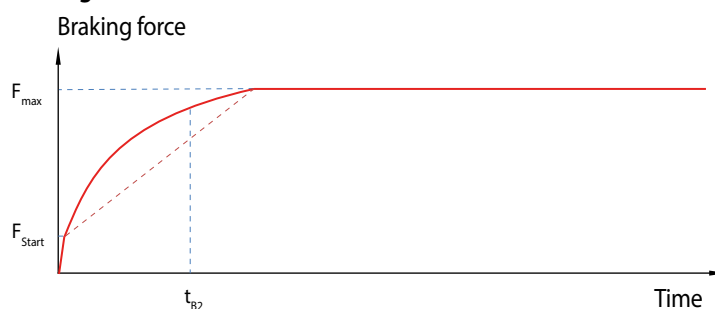
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Functional principle

Throttle setting 1



Throttle setting 2



11-3

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