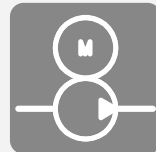


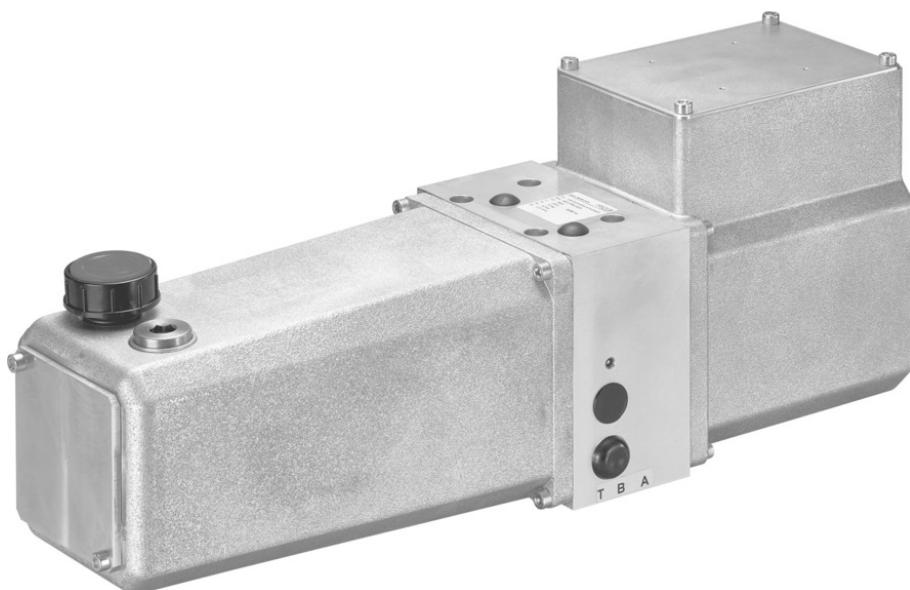
Mini hydraulic power pack type HR 120

Product documentation



For periodic intermittent operation (S3)

Operating pressure p_{\max} :	210 bar
Displacement volume V_{\max} :	0.19 cm ³ /rev
Usable volume (tank):	0.5 l



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Printing date / document generated on: 26.09.2022

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1**Overview of the mini hydraulic power pack type HR 120**

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.

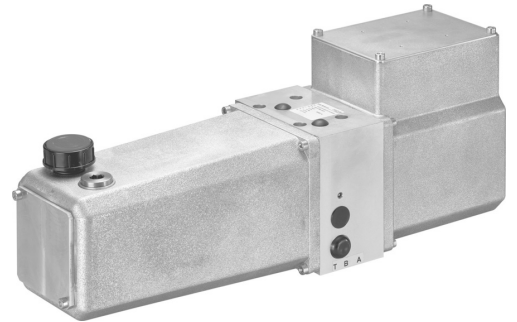
The mini hydraulic power packs of type HR offer reversible direction of flow, achieved by reversing the direction of rotation of the motor. No directional valve is required. The motor is protected from overloads by a built-in temperature switch.

Features and advantages

- Suitable for intermittent operation
- DC, three-phase or AC power supply
- Various installation positions possible

Intended applications

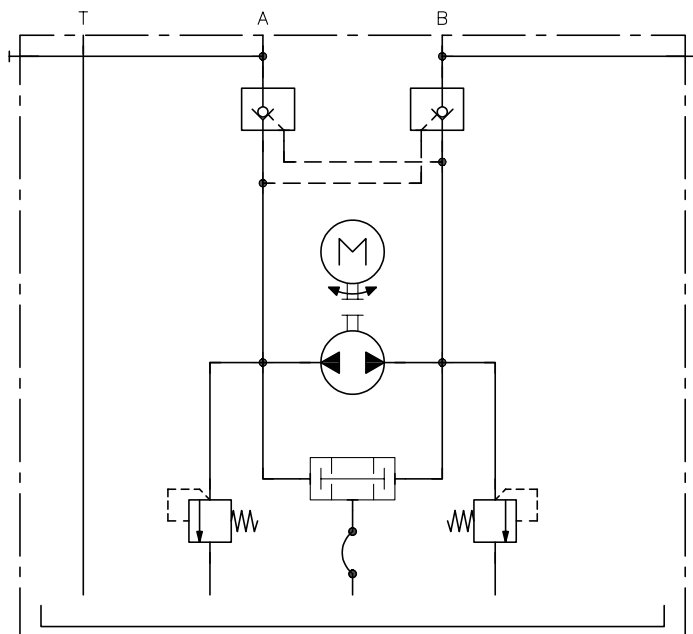
- Automotive technology
- Marine
- Decentralised hydraulic controls
- Emergency response vehicles - Korb hydraulics
- Not suitable for ATEX applications, not suitable for exposure to direct sunlight



Mini hydraulic power pack type HR 120

2 Available versions

Circuit symbol



Ordering example

HR120	-R1	02	-A2	8	B	A	6	C	-210/210	-1/4
										2.6 "Single connection block"
										2.5 "Pressure setting A-side and B-side"
										Coating Pump mount colourless chromated
										2.4 "Ingress protection class "
										Tank Aluminium tank
										Installation position any
										2.3 "Tank size"
										2.2 "Motor"
										2.1 "total flow rate"
										Direction of flow reversible, with double unblocking check valve GRV

Basic type and size

2.1 total flow rate

Radial piston pump

Coding	Delivery flow Q_{\max} (lpm) at 2800 rpm
02	0.24
03	0.32
05	0.52

2.2 Motor

Coding	Description	Supply voltage
A2	3-phase motor	380-420 V ∇ ; 50 Hz 440-480 V ∇ ; 60 Hz
A5		220-240 V Δ ; 50 Hz 220-280 V Δ ; 60 Hz
W1	alternating current motor	230 V/1 ph; 50/60 Hz
D3	brush-type DC motor	12 V DC
D4		24 V DC

2.3 Tank size

Coding	Description	Fill volume V_{fill} (l)	Usable volume V_{use} (l)
8	Aluminium	0.7	0.5

2.4 Ingress protection class

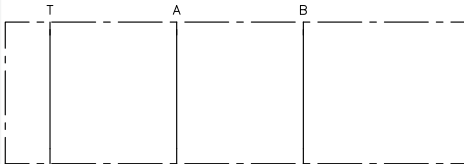
Coding	ingress protection class
6	IP 65 (in combination with suitable, professionally installed cable fitting, not included in scope of delivery)

2.5 Pressure setting A-side and B-side

Coding	Operating pressure $p_{\min} - p_{\max}$ (bar)
../..	40 - 210

(Stated in 10 bar steps; tolerance + 10 bar)

2.6 Single connection block

Coding	Connections (ISO 228-1)	Circuit symbol
Without coding	without	--
-1/4	G 1/4	

3 Parameters

3.1 General data

Version	Hydraulic power pack with built-in electric motor (DC, AC or 3-phase version) and reversible single-circuit pump
Function	Mini hydraulic power pack for intermittent operation (S3)
Pump design	Radial piston pump
Attachment	with and without single connection block
Hydraulic fluid	Hydraulic fluid, according to DIN 51 524 Parts 1 to 3; ISO VG 10 to 68 according to DIN ISO 3448 Viscosity range: 10 - 500 mm ² /s
Cleanliness level	<u>ISO 4406</u> 20/18/15
Temperatures	Environment: approx. -15 to +40 °C, hydraulic fluid: -10 ... +70 °C, ensure the correct viscosity range.

3.2 Weight

Type	
HR 120 without single connection block	= 6.8 kg
HR 120 incl. single connection block	= 7.7 kg

3.3 Pressure and volumetric flow

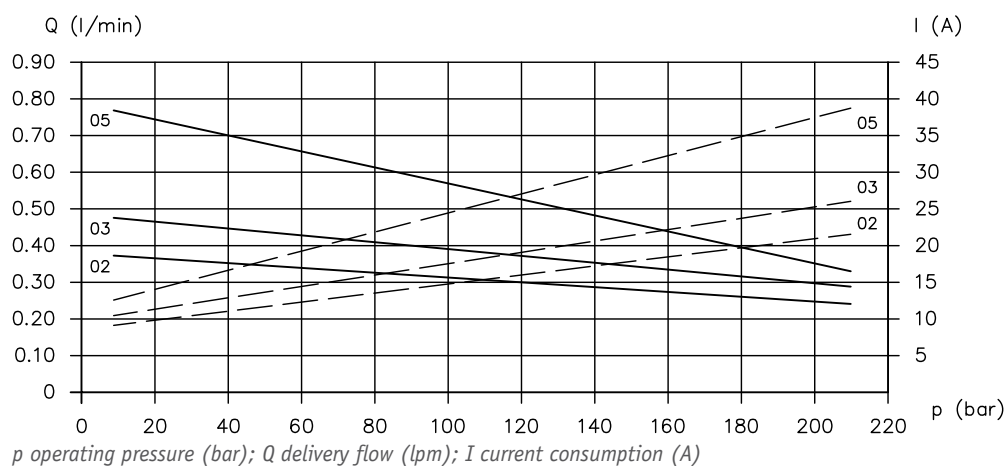
Tank pressure	-0.2 to 2 bar
Reflux quantity	max. 1 lpm
Operating pressure	$p_{\max} = 210 \text{ bar}$

3.4 Electrical data

3.4.1 Motor 12 V DC

Voltage	12 V direct current
Nominal power	P2 = 190 W
Duty cycle	Intermittent operation: S3-10 %
Electrical connection	Plug AMP P/N 160786/2 housing AMP P/N 180908-5 (black)
Protection class	IP 40 to DIN 40050

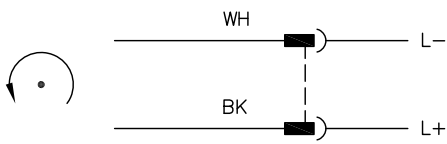
at +25 °C temperature of the hydraulic fluid, viscosity 46 mm²/s, tolerance ±5 %; min



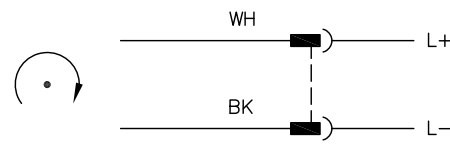
3.4.2 Motor 24 V DC

Voltage	24 V direct current
Nominal power	P ₂ = 190 W
Duty cycle	Intermittent operation: S3-10 %
Electrical connection	Plug AMP P/N 160786/2 housing AMP P/N 180908-5 (black)
Protection class	IP 40 to DIN 40050

Terminal assignment

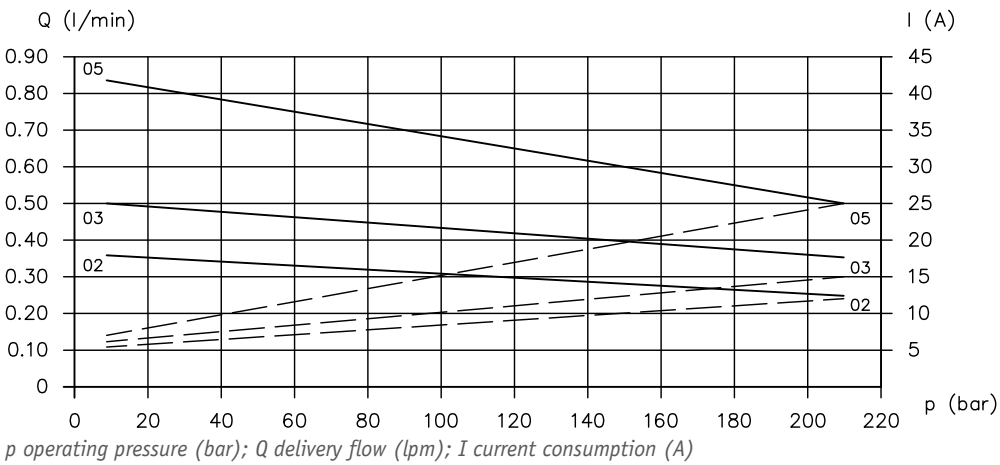


Anti-clockwise rotation = flow at A and return at B



Clockwise rotation = flow at B and return at A

at +25 °C temperature of the hydraulic fluid, viscosity 46 mm²/s, tolerance ±5 %

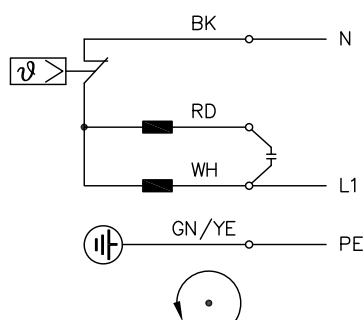


3.4.3 Motor 230 V AC, 1-phase

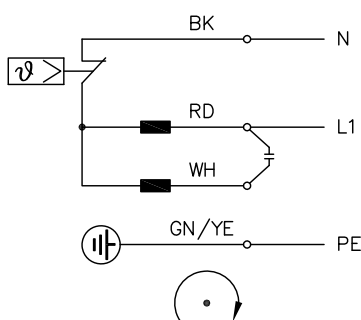
Voltage	230 V, 50/60 Hz
Nominal power	P1 = 300 W
Rotation speed	3000 rpm at 50 Hz
Current consumption	Start-up current: max. 4 A Nominal current: max. 1.6 A
Capacitor	10 μ F (included in scope of delivery)
Duty cycle	Intermittent operation: S3-10 %
Overload protection	Temperature switch opens at 140 °C
Electrical connection	Cable with wire end ferrules
Protection class	IP 40 to DIN 40050

Terminal assignment

Thermal protection of windings 140° - internally wired

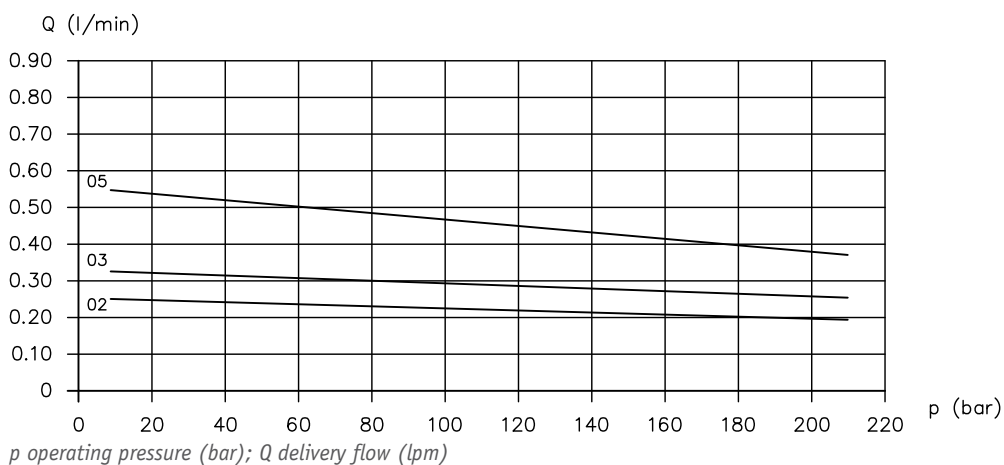


Anti-clockwise rotation = flow at A and return at B



Clockwise rotation = flow at B and return at A

at +25 °C temperature of the hydraulic fluid, viscosity 46 mm²/s, tolerance ± 5 %

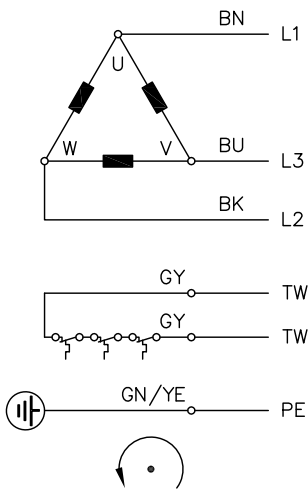


3.4.4 Motor 230 V and 400 V AC, 3-phase

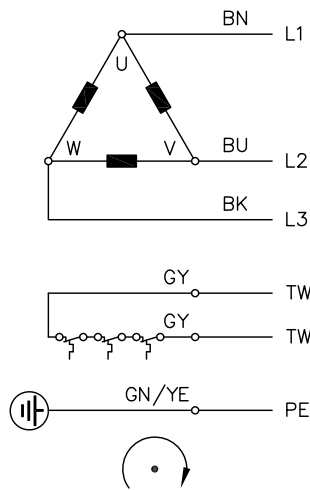
Voltage / current consumption	220 – 240 V Δ ; 50 Hz / 0.85 A 220 – 280 V Δ ; 60 Hz / 0.5 A 380 – 420 V Υ ; 50 Hz / 0.55 A 440 – 480 V Υ ; 60 Hz / 0.5 A
Nominal power	P1 = 300 W
Rotation speed	3000 rpm at 50 Hz
Duty cycle	Intermittent operation: S3-10
Overload protection	Temperature switch opens at 160 °C
Electrical connection	Cable with wire end ferrules
Protection class	IP 44 to DIN 40050

Terminal assignment 230 V AC Δ

Change of rotating direction: Exchange the L2 connection with L3, TW = Thermal protection of windings 160°



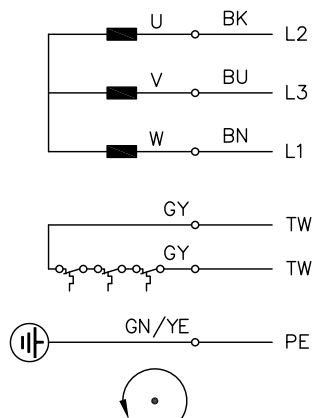
Anti-clockwise rotation = flow at A and return at B



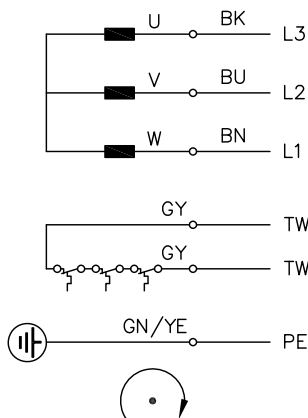
Clockwise rotation = flow at B and return at A

Terminal assignment 230 V AC / 400 V AC

Change of rotating direction: Exchange the L2 connection with L3, TW = Thermal protection of windings 160°

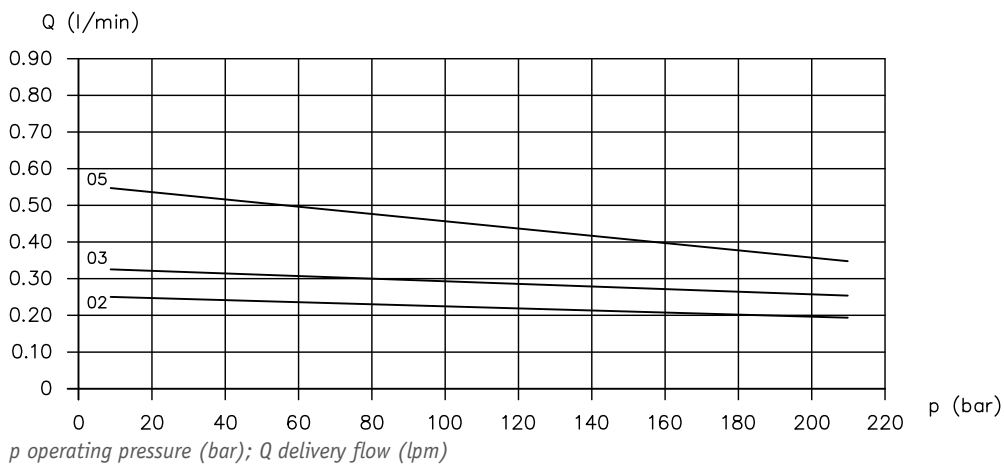


Anti-clockwise rotation = flow at A and return at B

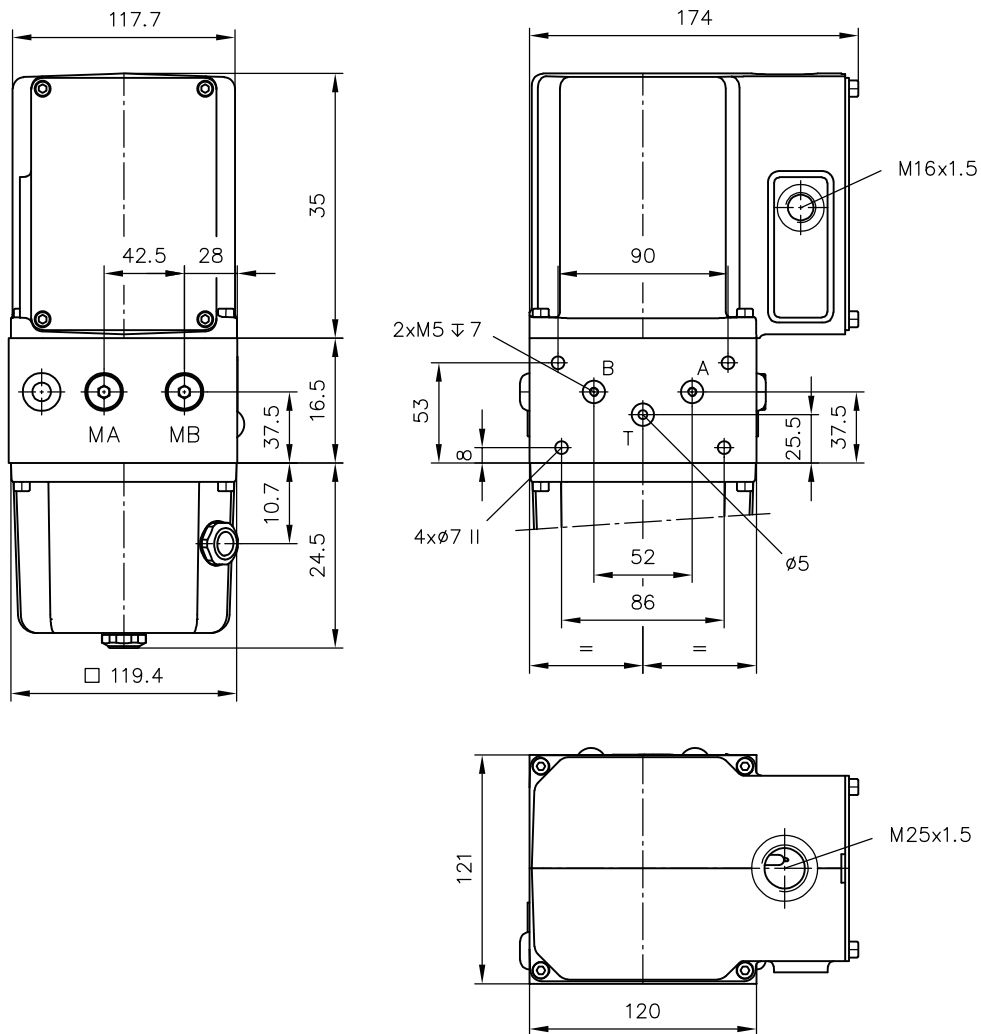


Clockwise rotation = flow at B and return at A

at +25 °C temperature of the hydraulic fluid, viscosity 46 mm²/s, tolerance ±5 %



Without single connection block



Observe the document [B 5488](#) "General operating instructions for assembly, commissioning, and maintenance."

References

Additional versions

- Mini hydraulic power pack type HR 050: D 6014
- Micro hydraulic power pack type HR 080: D 6342

Use

- Oil recommendations: D 5488/1
- General operating manual for the assembly, initial operation and maintenance of hydraulic components and systems: B 5488

