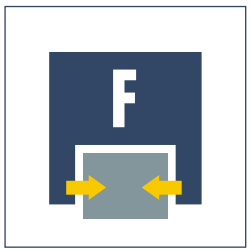
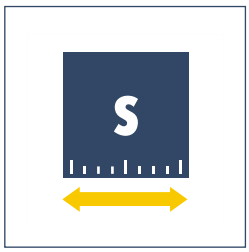
PEH

Size
40

Weight
7.8 kg



Gripping force
up to 1150 N



Stroke per finger
60 mm

Workpiece weight
5.75 kg

Application example

Fully electrically driven gantry axis for palletizing and depalletizing various components

1 **PEH 40 servo-electric 2-Finger Parallel Gripper**

2 **LIRAX-M LD 200-T Linear Motor Drive**

Long-stroke Gripper

Servo-electric 2-finger parallel gripper with long jaw stroke for large parts and/or a broad range of parts

Area of application

Universal, ultra-flexible gripper for great part variety in clean to slightly dirty working environments

Your advantages and benefits

Gripping force control in the range of 200 N – 1150 N
for the powerful gripping of various workpieces

Long stroke of 120 mm
for flexible workpiece handling

Fully integrated control and power electronics
for creating a decentralized control system

Versatile actuation options
for simple integration in existing servo-controlled concepts via Profibus-DP, CAN-Bus or RS-232

Robust guidance
for the precise handling of all kinds of workpieces

High maximum moments
suitable for the use of long gripper fingers

Mounting from two sides in three screw directions
for universal and flexible gripper assembly

General information on the series

Working principle
Ball screw drive synchronized by rack and pinion principle

Housing material
Aluminum alloy, hard-anodized

Base jaw material
Steel

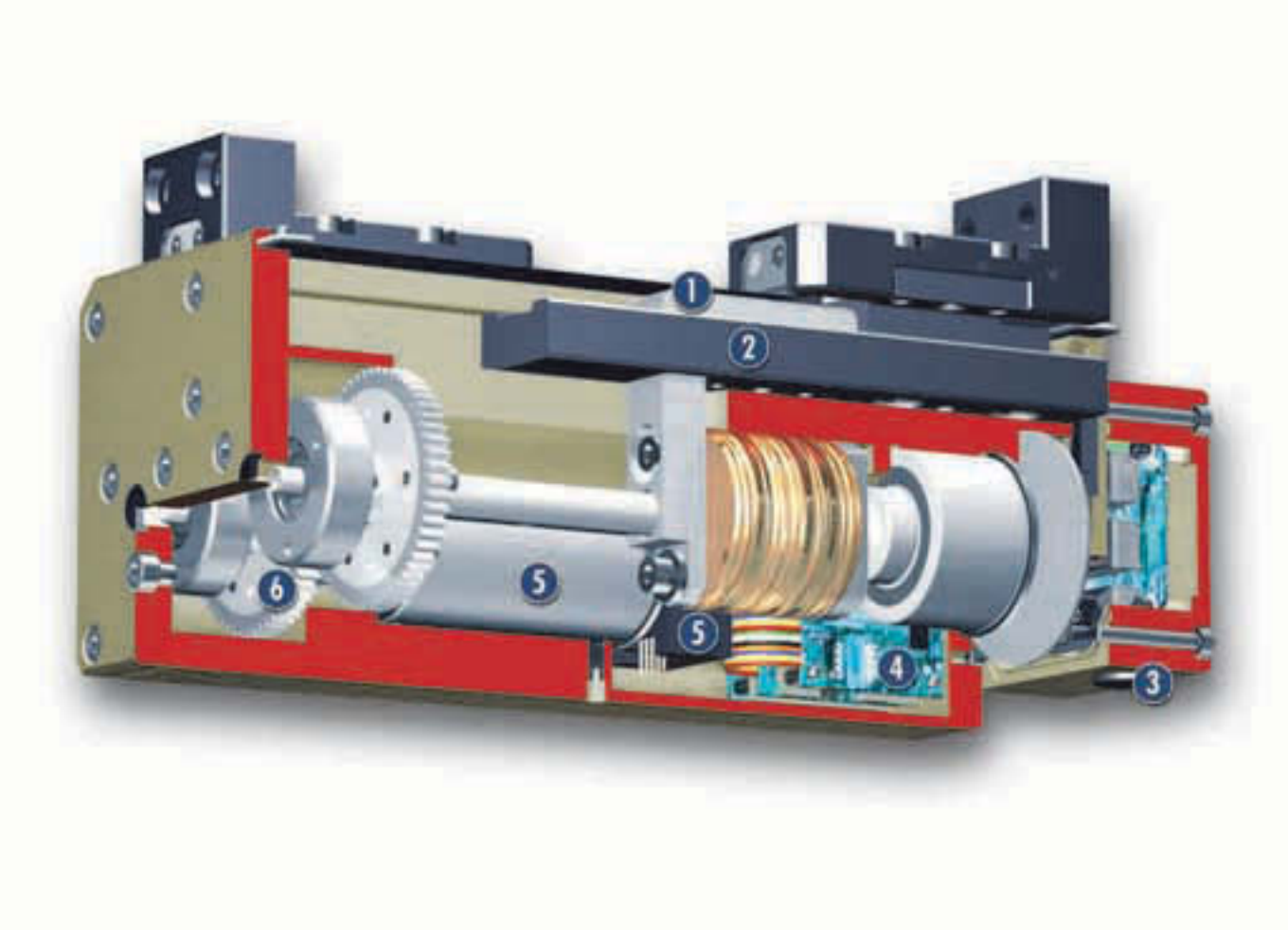
Actuation
Servo-electric, by brushless DC servo-motor

Warranty
24 months

Scope of delivery
Centering sleeves, "PowerCube Standard Software" CD-ROM containing an Assembly and Operating Manual with manufacturer's declaration, quick-step, PC CubeDemo and PC PowerCube Config software plus various driver files (see explanation of PowerCube system)

Option
- Internal encoder signal output
- External encoder signal input

Sectional diagram



1 **Kinematics**
rack and pinion principle for centric gripping

2 **Guidance**
for precise gripping with minimum play and high load capacity

3 **Humidity protection cap**
link to the customer's system

4 **Communication electronics**
integrated control and power electronics for actuating the servo-motor

5 **Drive**
DC servo-motor with hall-effect sensors and encoders

6 **Gear**
transmits power from the servo-motor to the drive spindle

Function description

The brushless servo-motor drives the ball screw on the opposite side via a gear mechanism. A base jaw is moved by means of a carrier on the spindle.
The jaw stroke is synchronized by means of rack and pinion kinematics.

Electrical actuation

The PEH 40 gripper is electrically actuated by the fully integrated control and power electronics. In this way, the module does not require any additional external control units.
A varied range of interfaces, such as Profibus-DP, CAN-Bus or RS-232 are available as methods of communication. This enables you to create industrial bus networks, and ensures easy integration in control systems. You can make use of our hybrid cables for transporting the supply voltage and for communication.
If you wish to create combined systems (e.g. a rotary gripper module), various other modules from our PowerCube series are at your disposal.

Accessories

Accessories from SCHUNK – the suitable companion for the highest level of functionality, reliability and controlled production of all automation components.

Centering sleeves

Finger blanks

Hybrid cable

ⓘ For the exact size of the accessories, availability of this size and the designation and ID No., please refer to the additional views at the end of the size in question. You can find more detailed information on our accessory range in the "Accessories" catalog section.

General information on the series

Gripping force

is the arithmetic total of the gripping force applied to each base jaw at distance P (see illustration), measured from the upper edge of the gripper.

Finger length

is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes

Workpiece weight

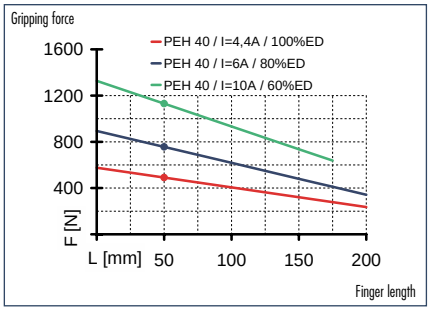
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

Closing and opening times

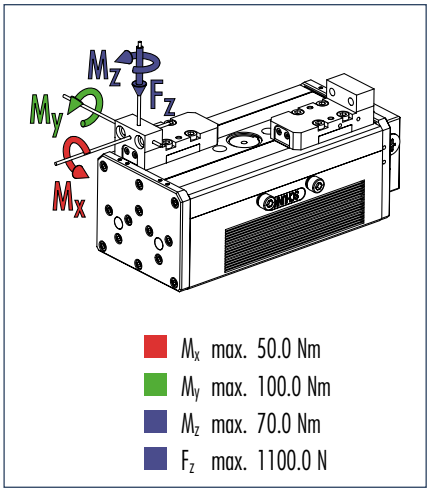
Closing and opening times are purely the movement times of the base jaws or base fingers. Relay switching times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

PEH 40

Gripping force



Finger load



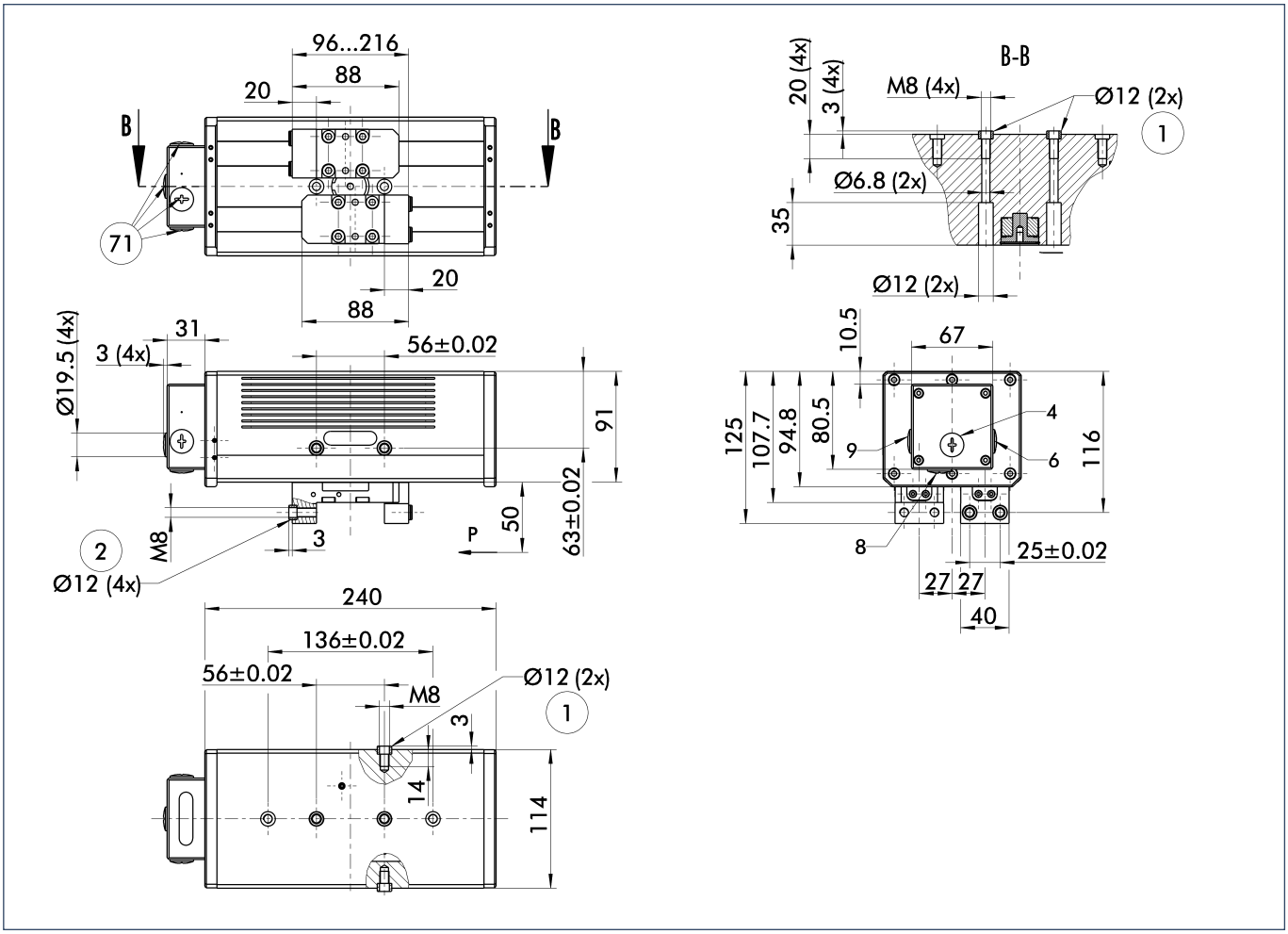
M_x max. 50.0 Nm
M_y max. 100.0 Nm
M_z max. 70.0 Nm
F_z max. 1100.0 N

ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Tool life may be reduced.

Technical data

Designation		PEH 40
Mechanical gripper operating data	ID	0306050
Stroke per finger	[mm]	60.0
Constant gripping force (100 % continuous duty)	[N]	1150.0
Max. gripping force	[N]	1150.0
Min. gripping force	[N]	200.0
Weight	[kg]	7.8
Recommended workpiece weight	[kg]	5.75
Closing time	[s]	1.0
Opening time	[s]	1.0
Max. permitted finger length	[mm]	200.0
Max. permitted weight per finger	[kg]	3.0
IP rating		41
Min. ambient temperature	[°C]	5.0
Max. ambient temperature	[°C]	65.0
Repeat accuracy	[mm]	0.05
Positioning accuracy	[mm]	on request
Max. speed	[mm/s]	210.0
Max. acceleration	[mm/s²]	1000.0
Electrical operating data for gripper		
Terminal voltage	[V]	24.0
Nominal current	[A]	4.4
Maximum current	[A]	12.4
Resolution	[mm]	on request
Controller operating data		
Integrated electronics		No
Voltage supply	[VDC]	24.0
Nominal current	[A]	0.5
Sensor system		Encoder
Interface		RS-232; Profibus-DP; CAN-Bus

Main views

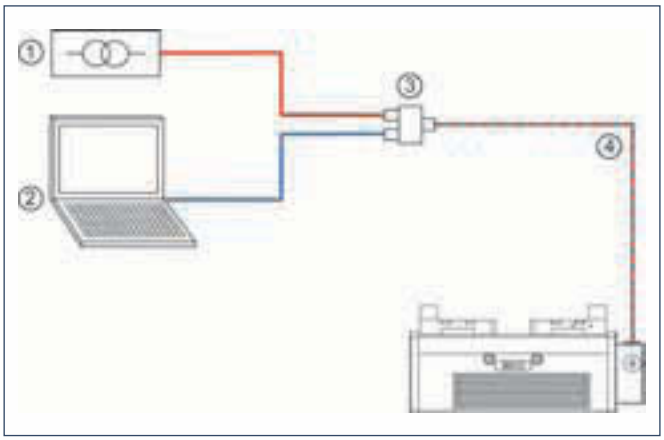


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ Alternatively/additionally to the spring-packaged mechanic gripping force safety device for O.D. and I.D. gripping the pressure maintenance valve SDV-P can be used (see catalog chapter "Accessories").

① Gripper connection
② Finger connection
71 M16x1.5 for cable gland

Actuation



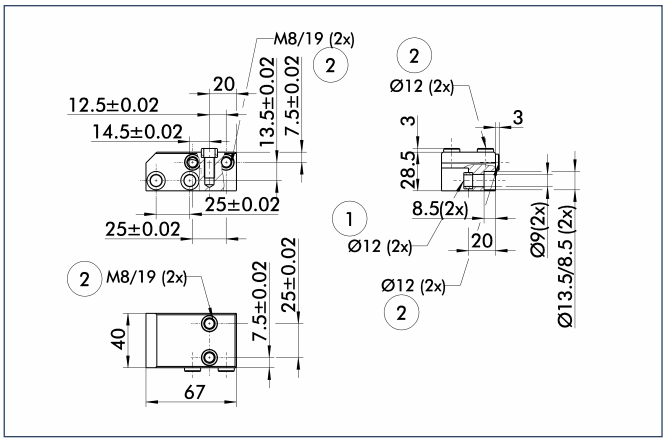
① 24 VDC power provided by the customer
② Control (PLC or similar) provided by the customer
③ PAE 130 TB terminal block (ID No. 0307725) for connecting the power supply, the communication and the hybrid cable
④ Hybrid cable for connecting the PowerCube modules

Interconnecting cable

Description	ID	Length
PowerCube Hybrid cable, coiled	0307753	0.3 m
PowerCube Hybrid cable, coiled	0307754	0.46 m
PowerCube Hybrid cable, straight (per meter)	9941120	

You can find further cables in the "Accessories" catalog section.

Intermediate jaws



① Gripper connection
② Finger connection

The optional intermediate jaws produce a symmetrical, centered screw connection diagram. This facilitates the design and manufacture of customized top jaws.

Designation	Material	Scope of delivery	ID
ZBH 40	16 MnCr 5	2	0300221

You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.