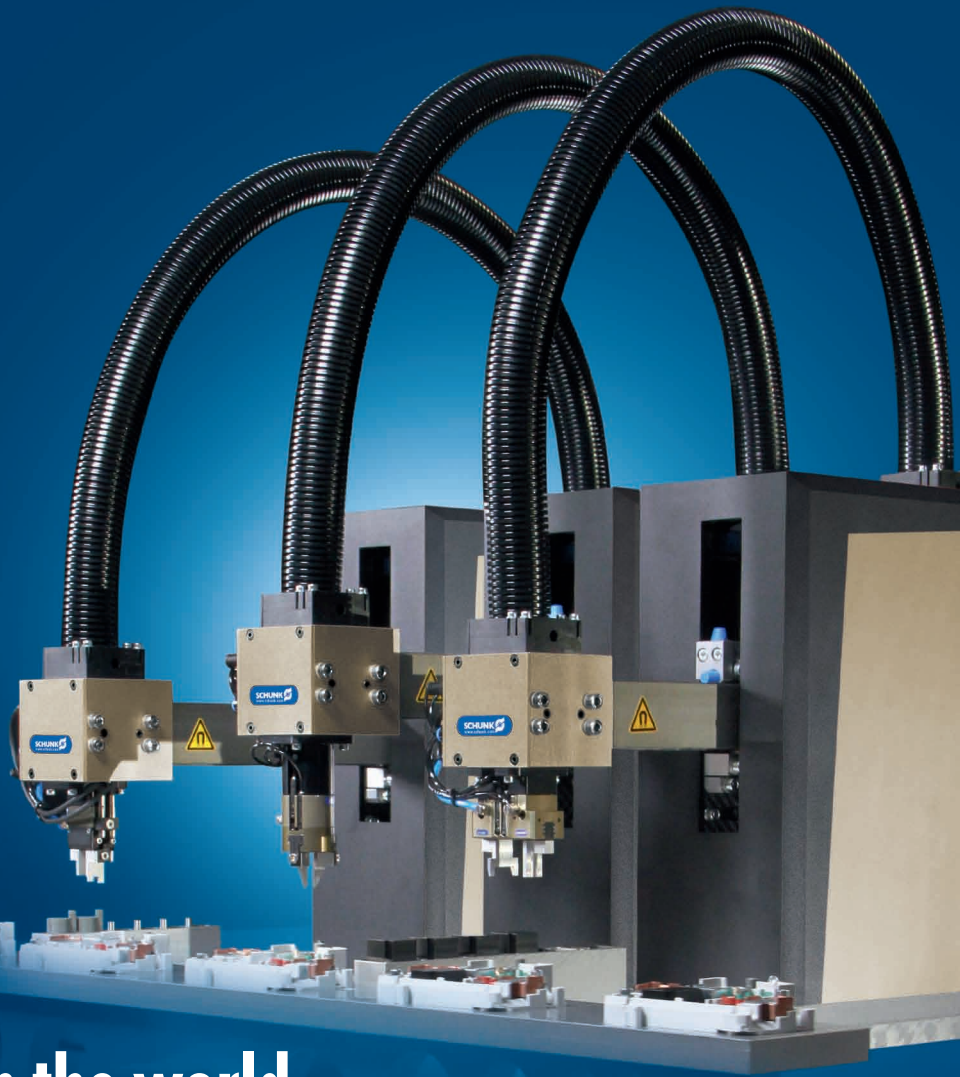




**The fastest
Pick & Place Unit in the world**

PPU-E Pick & Place Unit

EXCEPTIONAL PRECISION FROM THE COMPETENCE LEADER FOR CLAMPING TECHNOLOGY AND GRIPPING SYSTEMS.

High-speed with precision

Incredible pick rate – maximum repeat accuracy

When performing pick & place operations, take advantage of the SCHUNK modular system which offers system integrators, machine builders and users a high degree of design freedom, cost effectiveness, flexibility and reliability with minimum planning, design and commissioning work. With the PPU-E Pick & Place Unit for automated assembly, SCHUNK has expanded this high-precision modular system.

With fast cycle times and an excellent repeat accuracy < 0.01 mm, the PPU-E completes high-speed assembly tasks with the upmost precision. The cycle time is an unbelievable 0.58 seconds including switching and gripping times at vertical stroke of 40 mm and a moved mass of 2 kg.

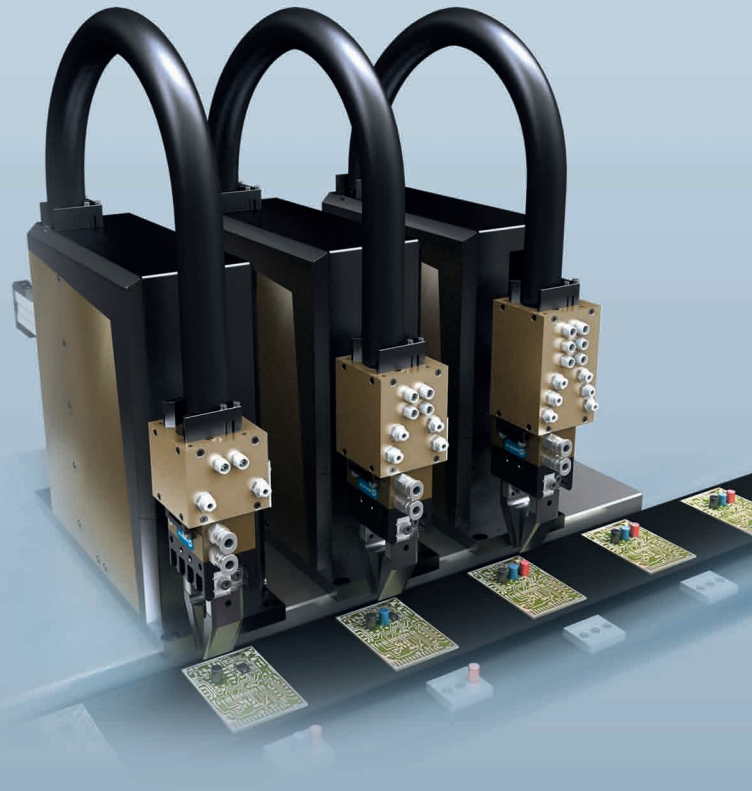
All power, control, sensor system and pneumatic system supply cables are connected to the stationary connection on the rear side of the PPU. Cable breakages and system malfunctions are all but eliminated. The freely programmable unit is designed for a vertical stroke of up to 100 mm, a horizontal stroke of 270 mm and a moved mass of 3 kg.

The slim design and media feed-through via the back panel enables the compact, low maintenance and simple to assemble sandwich assembly of several units next to one and other two integrated stroke measuring systems monitor the vertical and horizontal movement and guarantee high repeat accuracy.

Your advantage:

- Repeat accuracy < 0.01 mm – maximum precision
- No moving motor cables – no wear

- Compact design – simple assembly and sandwich assembly
- All in one – plug and play
- Modularity – can be equipped individually



Excellent! The PPU-E is a winner with its high level of innovation and benefits for industry.



2010 Hannover Messe industry prize in the manufacturing engineering and mechanical engineering category

Product of the month, November 2009 –
Awarded by the trade publication
"ke Konstruktion & Engineering"

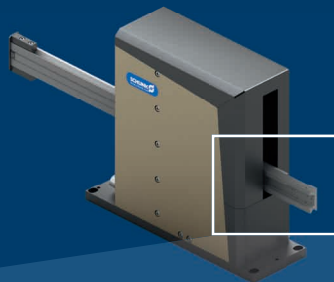


Modularity for more individuality

Configurations for every application

One basic version and four configurations. Regardless of which pick & place operations are required, the PPU-E covers an extraordinarily broad spectrum of applications with its five standard modular devices. The PPU-E with its integrated

standard interface, can be seamlessly combined with the range of modules offered by SCHUNK and can be equipped with the most varied actuators. SCHUNK offers the optimum solution from a single source: unit and modules.



Basic version 1
Without media feed-through



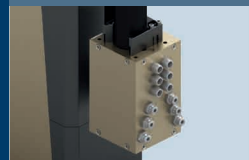
Extended version 2
Media feed-through
2x air / 2x sensor system



Extended version 3
Media feed-through
4x air / 4x sensor system



Extended version 4
Media feed-through
6x air / 6x sensor system



Extended version 5
elec. rotary module with media feed-through, 2x air / 2x sensor system



Linear modules



CLM



LM



KLM

Rotary modules



SRU-mini



RM



RM



SRU-plus

Gripping modules



PGN-plus



MPG-plus



MPZ



PZN-plus

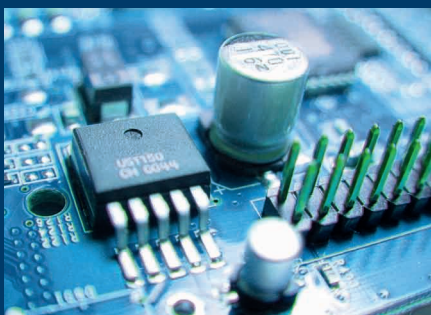


KGG



SWG

High-speed precision for different industrial requirements



Electronics/electrical industry



Consumer goods/leisure goods



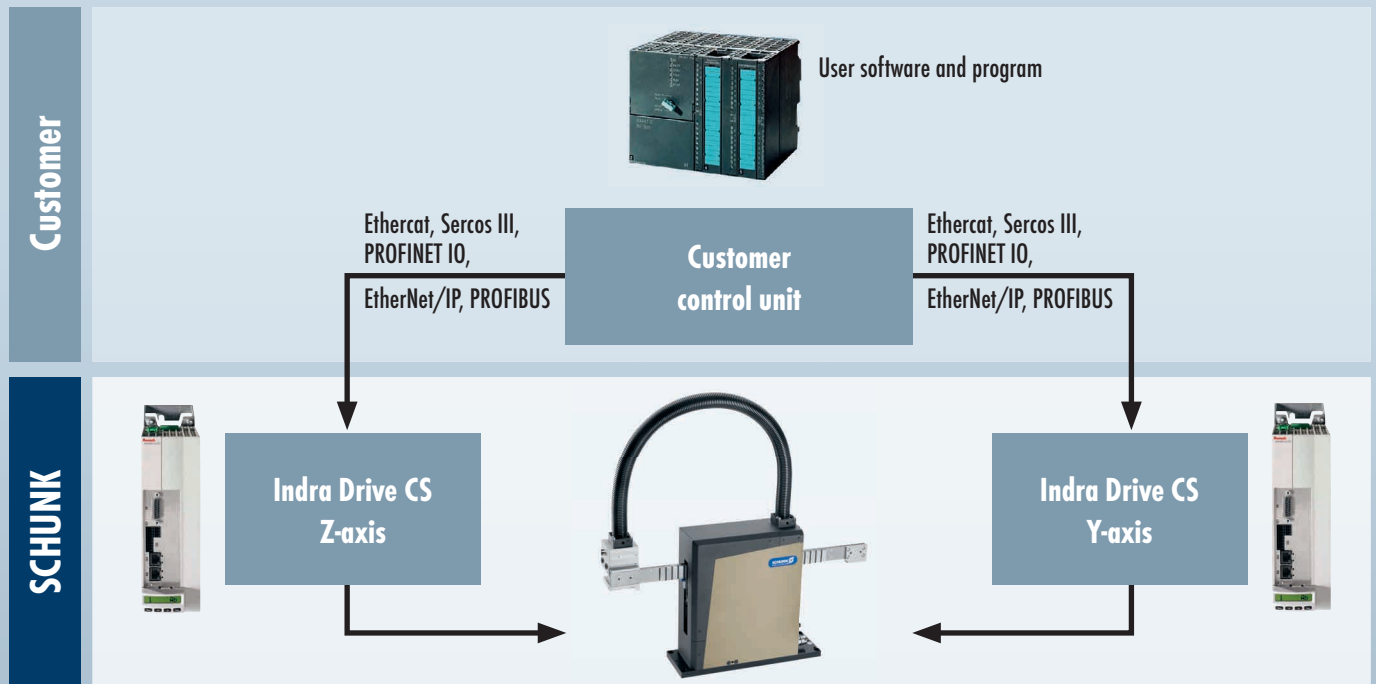
Assembly and handling

Servo controlled concepts made to measure

Concept 1

The customer programs the desired motion sequences on the higher level control unit. The control unit with Indra Drive CS controllers supplied by SCHUNK commu-

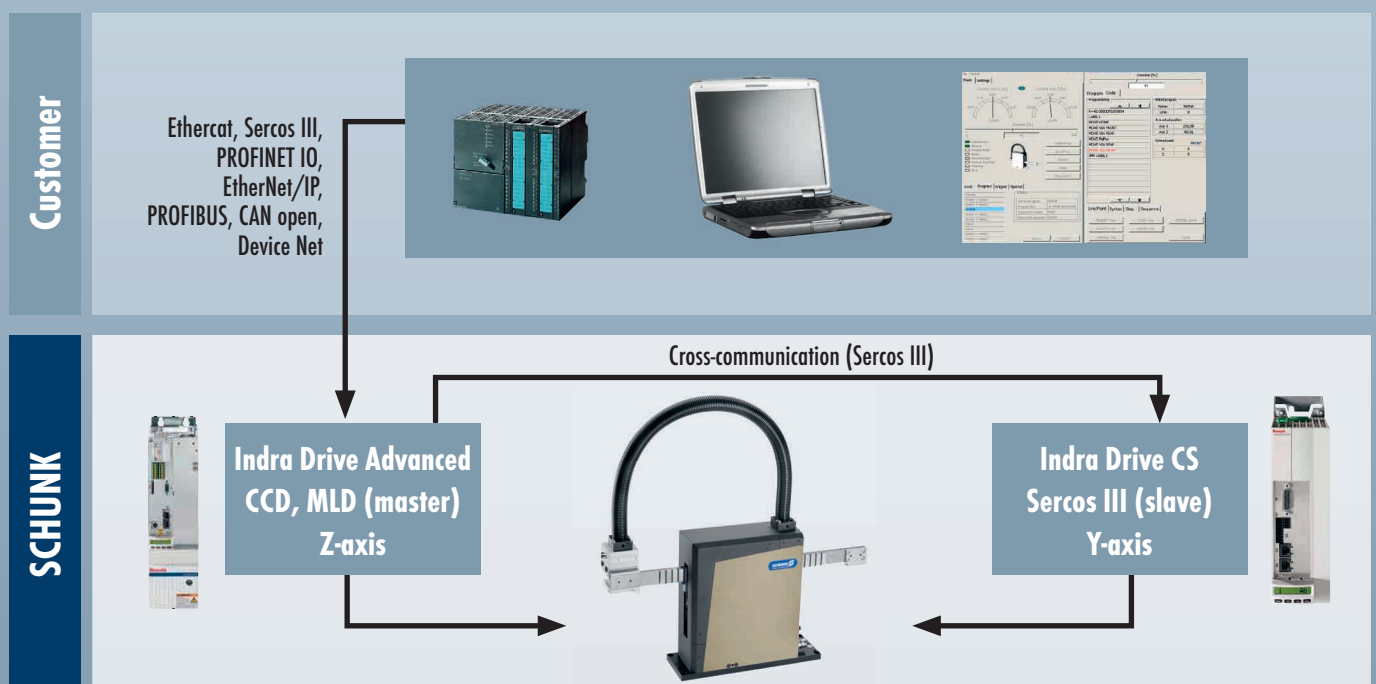
nicates directly via the conventional bus interface with the PPU-E.



Concept 2

The customer programs the desired motion sequences on the Visu software provided free of charge by SCHUNK. The program runs in the master on the Indra Drive

Advanced's own PLC. The program is started and stopped by digital I/O signals.

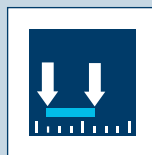




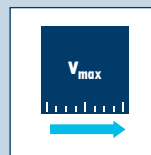
Size
30



Maximum work level
270 mm x 100 mm



Repeat accuracy
0.01 mm

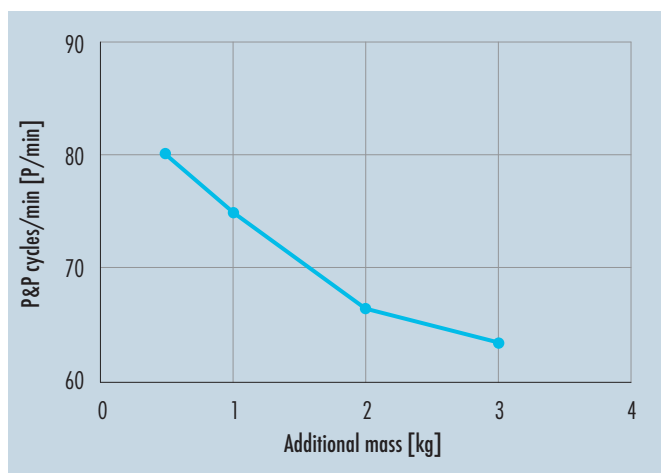


Maximum speed
4 m/s



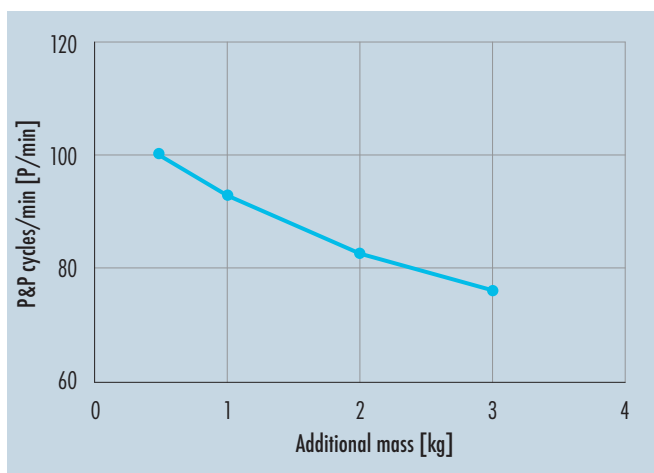
Maximum load capacity
3 kg

Example cycle at a stroke of 270 x 100 mm



The gripping time of 2 x 60 ms is taken into account for the specified picks per minute (P/min).

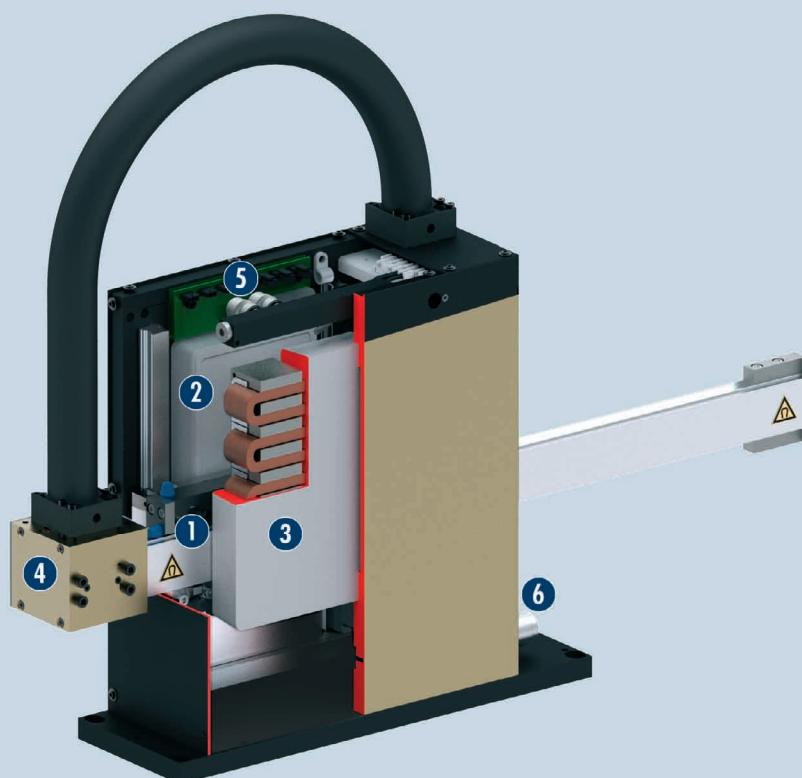
Example cycle at a stroke of 200 x 50 mm



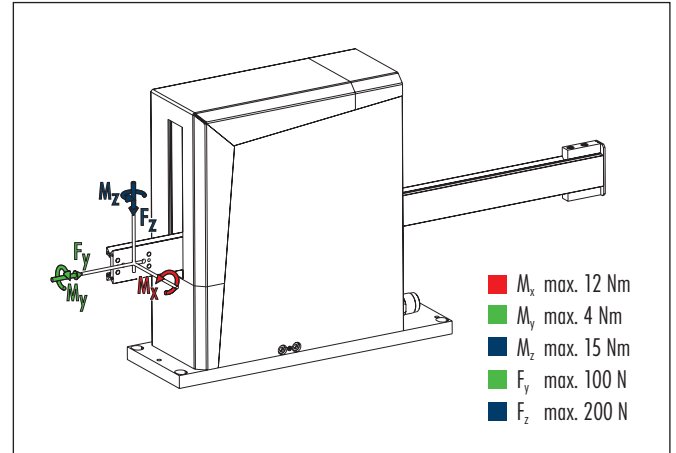
The gripping time of 2 x 60 ms is taken into account for the specified picks per minute (P/min).

Sectional diagram of function

- 1 Rail guidance
- 2 Motor for vertical axis
- 3 Motor for horizontal axis
- 4 Distributor box
- 5 Micro valves
- 6 Fixed motor plug



Moment load



PPU-E technical data

Designation		PPU-E
Max. driving force Z-axis (*)	[N]	515
Max. driving force Y-axis (*)	[N]	250
Rated force Z-axis (**)	[N]	206
Rated force Y-axis (**)	[N]	99
Max. achievable speed	[m/s]	4
Max. acceleration	[m/s ²]	100
Load capacity (horizontal)	[kg]	3
Horizontal stroke	[mm]	270
Vertical stroke	[mm]	100
Positioning accuracy (***)	[mm]	0.02
Repeat accuracy (***)	[mm]	0.01
Measuring system resolution (*)	[μm]	0.5
Max. current Z-axis I _{max}	[A]	16.2
Continuous current at standstill Z-axis I _d	[A]	3.2
Max. current Y-axis I _{max}	[A]	8.1
Continuous current at standstill Y-axis I _d	[A]	1.7
Ambient temperature	[°C]	40
Surface temperature	[°C]	70
Total weight of a standard unit	[kg]	19.5

Options and their characteristics

Extended version	1	2	3	4	5
Distributor box					
Number of valves MV 25	0	2	4	6	2
Valve switching time	[ms]	-	18	18	18
Number of air feed-throughs	0	2x	4x	6x	2x
Number of sensor feed-throughs (M8x1, 3-pin)	0	2x	4x	6x	2x
Number of hoses	0	1	1	1	2
C-axis: MRD-S 04/08/12					
Max. torque	[Nm]	-	-	-	3.6
Max. speed	[rpm]	-	-	-	600
Repeat accuracy (***)	[°]	-	-	-	0.001

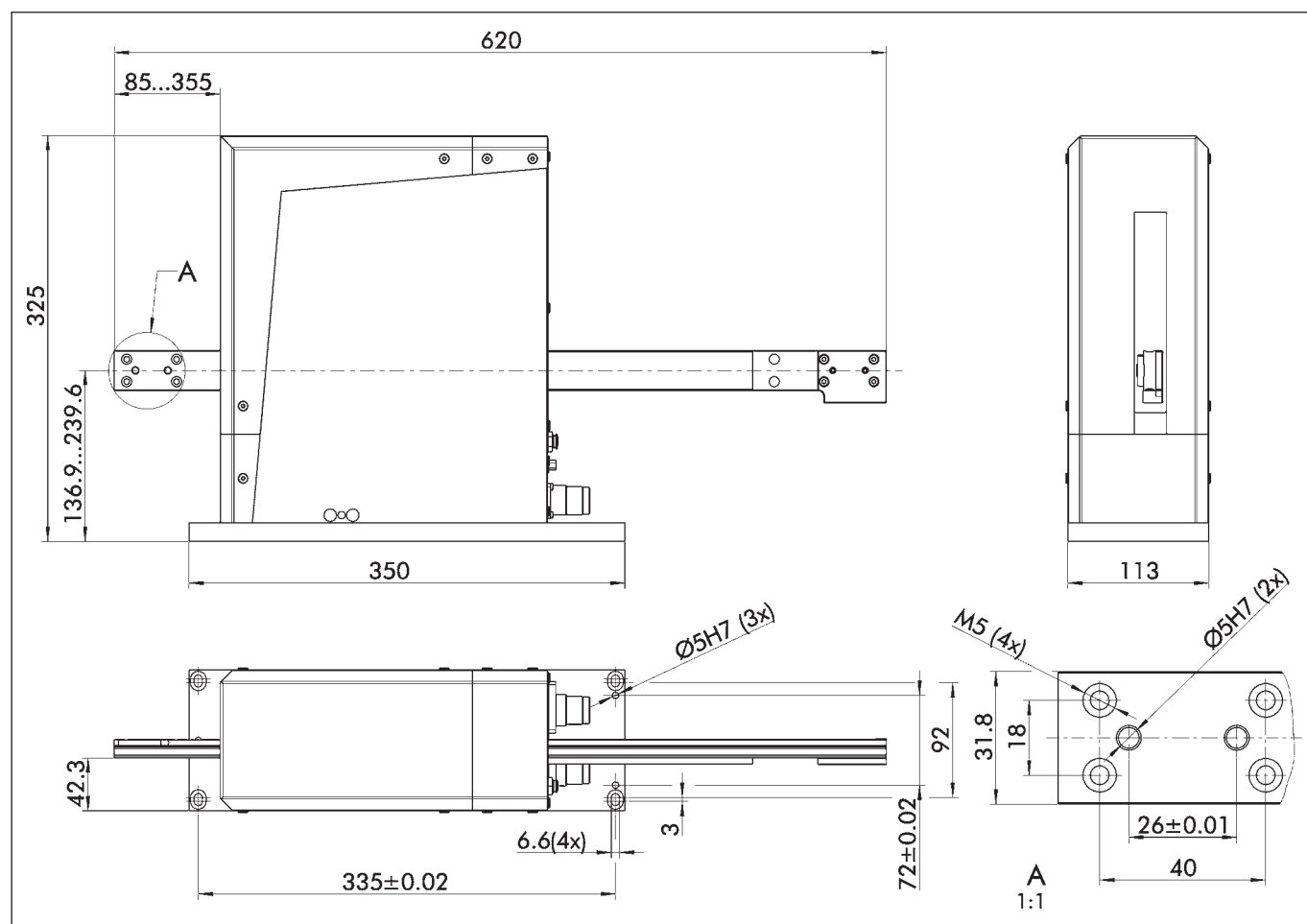
Please consult our main catalog for further product information about SCHUNK rotary modules.

* Depending on controller type used

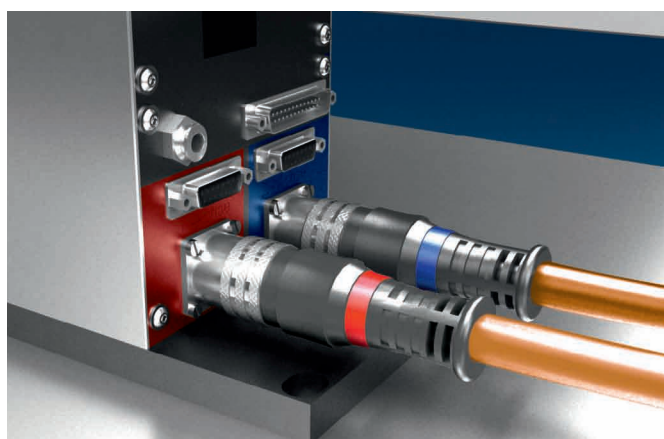
** Depending on controller type used and the installation situation (heat dissipation)

*** The specified repeat accuracies are only applicable at constant ambient temperatures.

Main view



CAD files on request.



Electrical interfaces

The PPU-E does not require any moving motor cables. All power, control, sensor system and pneumatic system supply cables are connected to the stationary connection on the rear side. Cable breakages and system malfunctions are all but eliminated.

Service Plus

Professional, reliable and comprehensive service – SCHUNK service means that you are not hedging your bets when it comes to costs. This is an important part of our

company philosophy. Our wide palette of services, ranging from consultation to after-sales is sure to impress thanks to our total reliability and technical know-how.

On-site commissioning support

- Wiring and cable checks
- Commissioning of the PPU-E on the controllers supplied
- Leak testing
- Training of commissioning staff and machine operators
- Acceptance report

Maintenance

- PPU-E cleaning
- Relubrication of the guides
- Exchange of wearing parts
- Functional testing

Functional testing at our production facility

- Mechanic integration of all attachments/options
- Electrical integration of all attachments/options
- Parameterization of the drive controllers
- Assignment of the axis controllers
- Functional testing

Product optimization

- Actual state analysis (with high-speed camera)
- Optimization of the cycle time
- Program optimization/sequence optimization
- System consultation

Precondition: The machine/automated system and components are in operation (controller, integrated PLC)



Copy fax reply, complete and fax to +49-7133-103-2679

Please contact me

☐ for a PPU-E consultation by phone

☐ for a personal consultation from the SCHUNK outside sales force

Company	Name	Department
Street	ZIP	City
Phone	Fax	E-mail