



Hand in hand for tomorrow



Product data sheet

Linear pick & place unit PPU-E

PPU-E

Linear pick & place unit

Flexible. Fast. Precise.

Pick & place unit PPU-E

Compact 2-axis unit for a faster, flexible running of any curve on one plane

Field of application

For use in clean and slightly polluted environment. For a faster and precise shifting or controlled press-in operation of workpieces in the field of high-speed assembly.



Advantages – Your benefits

No moving motors – no moving motor cables – no cable break
high reliability and life time of the system

Short cycle time therefore a high productivity is achieved

Both axes can be controlled and adjusted independent from each other for maximum flexibility in applications

Integration of micro valves possible at a low assembly and installation work

Manifold options for perfect optimization to your case of application (integrated valves, C-axis)

Additionally with electrical C-axis for one more degree of freedom at each application

Adapter from the modular system for numerous standard combinations with products of the modular assembly automation

All the connections can be reached via the backpanel for comfortable commissioning and maintenance

Optionally certified safety devices according to SIL2/PLd with the HIPERFACE® and DRIVE-CLiQ interfaces for applications with high standards in the area of machine safety



Sizes
Quantity: 3



Maximum working
plane
280x150 mm



Repeat accuracy
0.01 mm



Max. speed
4 m/s

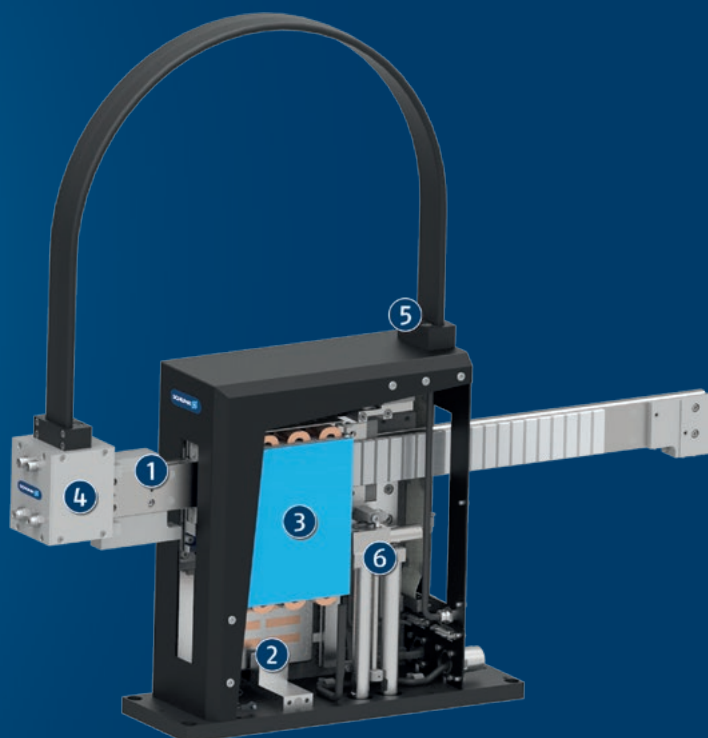


Max. load capacity
1.5 .. 5 kg

Functional description

The pick & place module is actuated via two fixed linear motors (primary parts). The secondary parts (magnets) are fixed for the Z-axis on the slide, and for the Y-axis on the cantilever arm. Both axes can be actuated and controlled

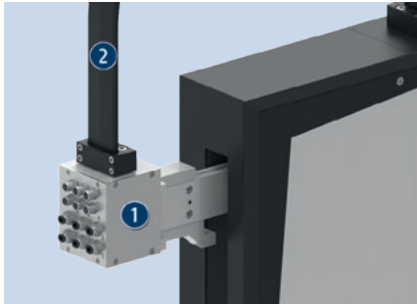
independently of one another.



- ① **cantilever arm**
with precise pre-loaded profiled rail guide with recirculating ball bearing (PPU-E 30 & PPU-E 50 only)
- ② **Linear motor for vertical axis**
Fixed primary part
- ③ **Linear motor for horizontal axis**
Fixed primary part
- ④ **Distributor box**
for connection of air and sensor lines of the actuator
- ⑤ **Hybrid cable**
with integrated air hoses and electrical lines
- ⑥ **Pneumatic holding brake**
pneumatically actuated in the Z-axis

Detailed functional description

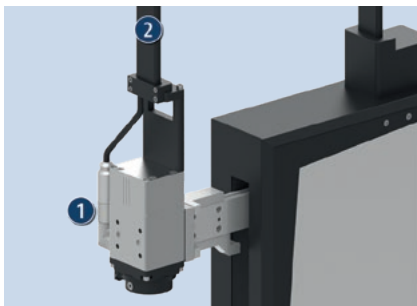
Variant with PF2, PF4 or PF6 distributor box



The PF2, PF4 and PF6 variants offer a media feed-through from the connection area right up to the cantilever arm. The pneumatic lines and sensor cables for mounting can be connected directly to the distribution box. The distribution box is connected to the PPU-E using a hybrid cable, which is adapted perfectly to the uses and movements of a pick & place application.

- ❶ Distribution box for variant PF6
- ❷ Hybrid cable

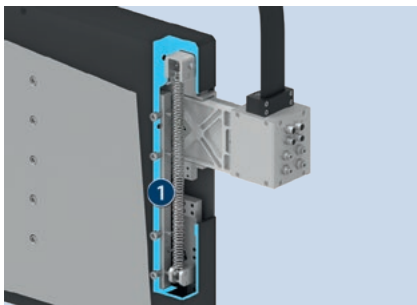
variant with an additional C-axis



PPU-variants with the additional C-axis have a SCHUNK electric rotary module fitted to their cantilever arms. This can be supplied on option with an incremental or absolute measuring system. Power is supplied via a hybrid cable.

- ❶ C-axis with rotary module ERD
- ❷ Hybrid cable

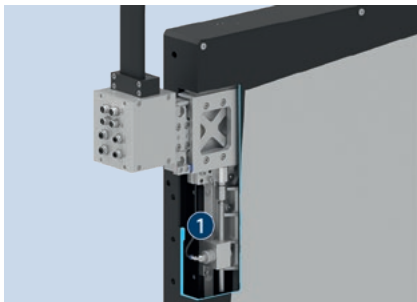
Variant with spring force compensation



The PPU-E comes with the option of a load compensation. This is ensured by using a spring. The spring compensates for a part of the weight forces during vertical movements of the linear motor. In addition, it also serves to partially lifting the sword when switching off the power supply.

- ❶ Spring force compensation

Variant with holding brake



The PPU-E can be fitted with a pneumatically operated holding brake as an option. The holding brake holds the Z-axis in a defined position, even when the power supply to the motor is cut off.

- ❶ Holding brake, operated pneumatically

How to order a pick & place unit PPU-E

PPU - E - 30 - H270 - V100 - 03 - PF2 - MS1 - FA - A02 - NNN

Electrical direct drive

PPU-E-15 = Electr. PPU-E size 15

PPU-E-30 = Electr. PPU-E size 30

PPU-E-50 = Electr. PPU-E size 50

Stroke

H150-V 60 = Electr. PPU-E size 15 (Stroke in mm)

H270-V 100 = Electr. PPU-E size 30 (Stroke in mm)

H280-V 150 = Electr. PPU-E size 50 (Stroke in mm)

Other strokes on request

Version number

Expansion stage

NNN = without attachment, without power supply

PF2 = Version with 2 integrated valves and 2 sensor connections, hybrid cable

PF4 = Version with 4 integrated valves and 4 sensor connections, hybrid cable

PF6 = Version with 6 integrated valves and 6 sensor connections, hybrid cable

D04 = Version for additional C-axis: MRD-S 04, hybrid cable

D08 = Version for additional C-axis: MRD-S 08, hybrid cable

D12 = Version for additional C-axis: MRD-S 12, hybrid cable

F04 = Version for additional C-axis: ERD 04, hybrid cable

F08 = Version for additional C-axis: ERD 08, hybrid cable

F12 = Version for additional C-axis: ERD 12, hybrid cable

x99 = customized version

Stroke measuring system

MS1 = Measuring system type 1, LE100 (PPU-E 15 only)

MS2 = Measuring system type 2, LE200 (PPU-E 30 and 50 only)

MS4 = Measuring system type 3, TTK70 (PPU-E 15 only)

MS8 = Measuring system type 8, DRIVE-CliQ safety (only PPU-E 15)

MSL = Measuring system type L, TTK70S safety (only PPU-E 15)

Load compensation Z-axis

FA = Spring-loaded compensation for Z-axis

BV = Holding brake and brake valve for Z-axis

NN = without holding function for Z-axis

Mechanical interface

A01 = Attachment variant 01 – interface of the modular system, modular assembly automation

A02 = Attachment variant 02 – basic interface with external hose connections (preferred version)

A99 = Attachment variant 99 – customized solutions

NNN = without (only with optional variant NNN)

Sensor version

NNN = Sensor connections nx 3-pin (preferred version), 1x 4-pin with additional C-axis

SP1 = Sensor connections 1x 4-pin, all others 3-pin, not with additional C-axis

SP2 = Sensor connections 2x 4-pin, all others 3-pin, not with additional C-axis

General notes about the series

Drive: Linear direct drive based on a 3-phase, electronically commutated and permanently excited AC synchronous liner motor

Stroke measuring system: Contactless, magnetic, incremental measuring system; PPU-E 15 also available with absolute encoder with the interfaces HIPERFACE® and DRIVE-CLiQ.

Housing material: Aluminum

Guidance: Scope-free pre-clamped cross roller guides (only PPU-E 15) or scope-free pre-clamped profile rail guide (only PPU-E 30 and PPU-E 50)

cantilever arm: Steel guide rails with glued, permanent magnets

Scope of delivery: Assembly and operating manual with declaration of incorporation

Drive controller: Consultation on parameter settings for drive controllers from BOSCH (EcoDrive CS, IndraDrive and IndraDrive CS) and Siemens (Sinamics S120). Provision of motor data sheets for other drive controllers. Commissioning support on request.

Warranty: 24 months

Service life characteristics: on request

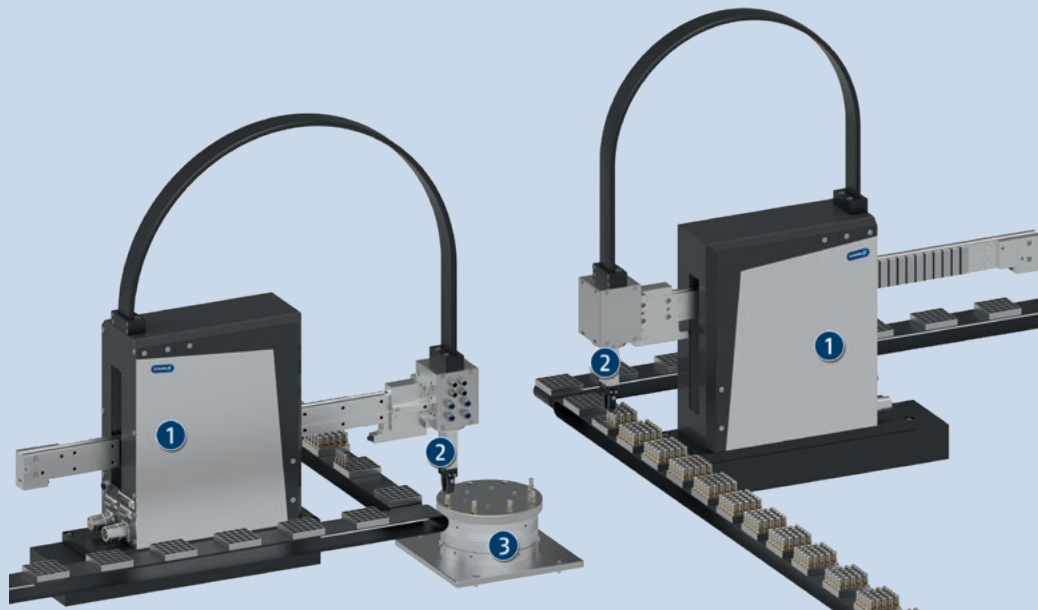
Safety notes: Caution: Magnetic field! This particularly applies for persons with implanted medical devices, such as pacemakers, hearing aids, etc.

Repeat accuracy: defined as the spread of the target position after 100 consecutive positioning cycles under constant conditions.

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.

Payload: is the weight of the total weight which is attached to the cantilever arm. Please consider that service life will shorten if the maximum payload is exceeded. SCHUNK cannot assume any warranty for this.



Application example

High-speed pick & place unit with additional C-axis for fast repositioning of small components.

① Pick & place unit PPU-E

② Electric 2-finger parallel gripper EGP

③ Universal rotary module ERS

SCHUNK offers more ...

The following components make the product even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Gripper for small components



Gripper for small components



Rotation unit



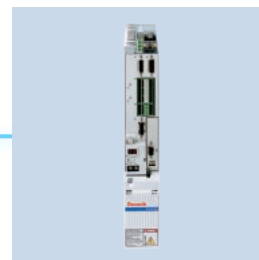
Rotary gripper module



Power and encoder cables



Micro valve



Drive controller

① For more information on these products can be found on the following product pages or at schunk.com.

Options and special information

Modular transducer system: The PPU-E 15 can be supplied with different path measuring systems. The incremental stroke measuring system has a 1Vss interface. The absolute path measuring systems are optionally available with the interfaces: HIPERFACE® or DRIVE-CLiQ.

Mechanical interface of the distributor box: The mechanical interface of the distributor box is optionally available in two versions. In attachment variant 01 the interface has the hole pattern for the modular system "Modular assembly automation". Modules from the modular system can thus be directly mounted without an additional adapter plate. The attachment variant 02 allows the mounting of various modules onto the distributor box via an adapter plate.

Sensor version of the distributor box: Sensor connections on the distributor box are optionally available with 3-pin or 4-pin M8 connectors. Various sensors can then be used depending on the specifications. Versions with a pneumatic brake and spring force compensation are optionally available.

Certified encoder system: The encoder systems with the HIPERFACE® (optional) and DRIVE-CLiQ interfaces are certified according to SIL2/PLd. This means that even demanding applications with high requirements in the area of machine safety can be implemented. Please contact us for further information.

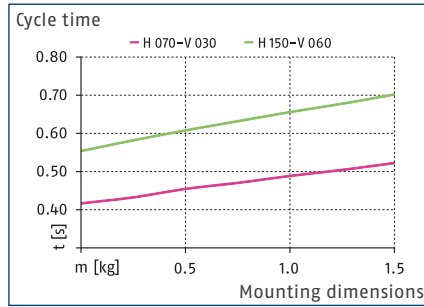
NEW: Version with food –compliant lubrication (H1G): on request as a solution for an easy entry into medical technology, lab automation,, pharmaceutical and food industry. The requirements of EN 1672-2:2020 are not fully met.

PPU-E 15

Linear pick & place unit

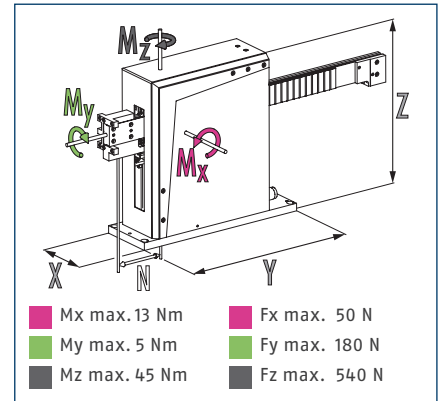


Cycle time



① The diagram is valid for table-mounting. A cycle consists of two horizontal movements (H), four vertical movements (V) and 2 x 60 ms gripping time. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result. We will be happy to help you design other applications.

Dimensions and maximum loads



① The indicated moments and forces are static values and may appear simultaneously.

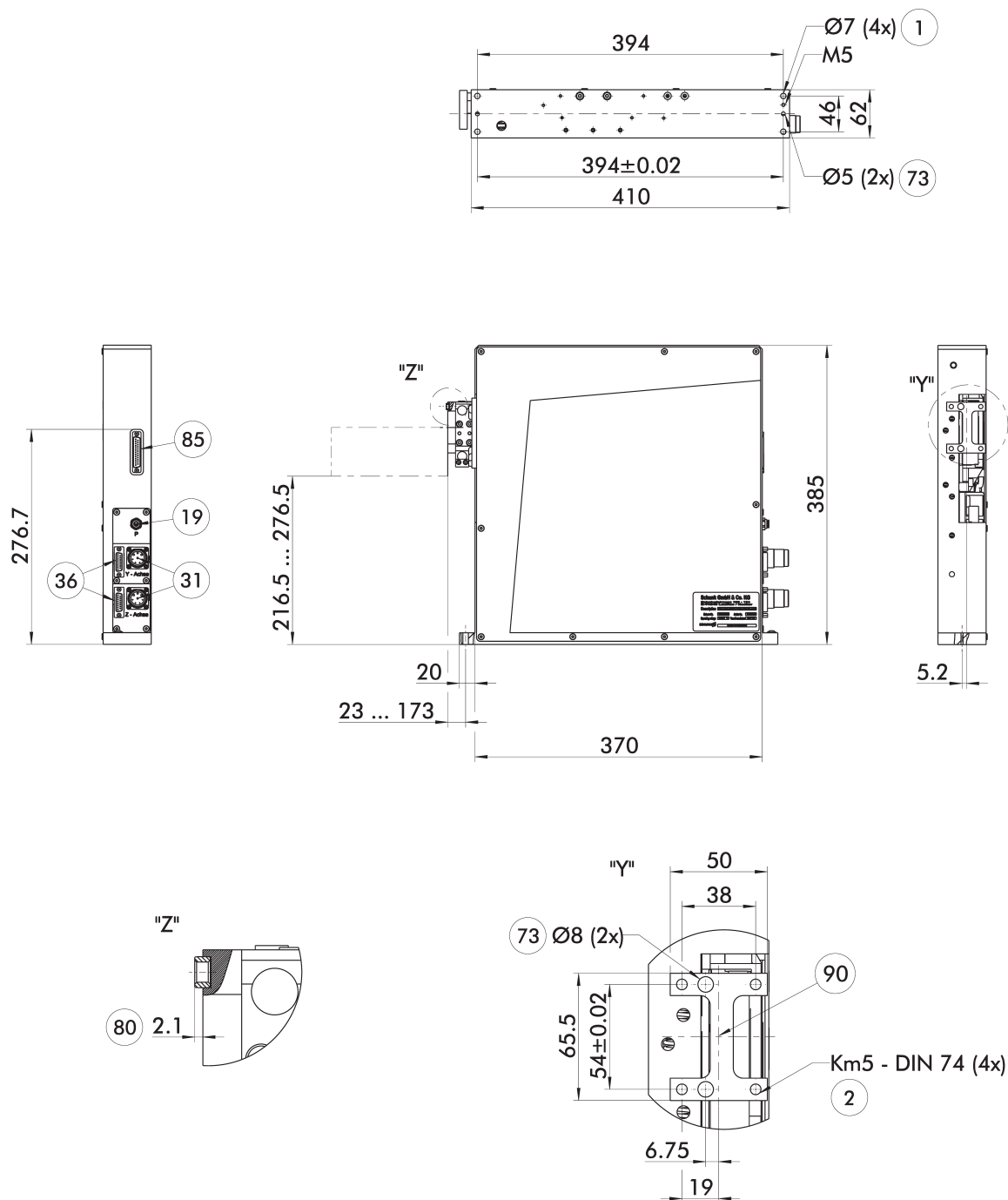
Technical data

Description		PPU-E 15-H150-V060-01-NNN	PPU-E 15-H150-V060-01-PF2	PPU-E 15-H150-V060-01-D04	PPU-E 15-H150-V060-01-F04
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive	Linear direct drive
stroke horizontal [Y-axis]	[mm]	150	150	150	150
stroke vertical [Z-axis]	[mm]	60	60	60	60
Max. driving force [Y/Z axis]	[N]	180/540	180/540	180/540	180/540
Nominal force [Y/Z axis]	[N]	65/200	65/200	65/200	65/200
Max. payload	[kg]	1.5	1.5	1.5	1.5
Repeat accuracy [y/z axis]	[mm]	0.01/0.01	0.01/0.01	0.01/0.01	0.01/0.01
Max. current [Y/Z axis]	[A]	8/16	8/16	8/16	8/16
Current at standstill [Y/Z axis]	[A]	2.36/4.84	2.36/4.84	2.36/4.84	2.36/4.84
Min./max. ambient temperature	[°C]	10/40	10/40	10/40	10/40
Weight	[kg]	17	18	19.2	20
Stroke measuring system interface		HIPERFACE®, Sin/Cos 1Vss, DRIVE-CLiQ	HIPERFACE®, Sin/Cos 1Vss, DRIVE-CLiQ	HIPERFACE®, Sin/Cos 1Vss, DRIVE-CLiQ	HIPERFACE®, Sin/Cos 1Vss, DRIVE-CLiQ
No. of fluid feed-throughs			2		
No. of E-fittings on the output end			2		
Prepared for C-axis				MRD-S 04	ERD 04
No. of fluid feed-throughs				2	2
No. of E-fittings on the output end				1	1
Clearance N (for moment load)	[mm]	70	70	70	70
Dimensions X x Y x Z	[mm]	62 x 410 x 385	62 x 410 x 623.6	62 x 410 x 680.6	62 x 410 x 680.6

Options and their characteristics

Description		PPU-E 15-H150-V060-01-PF4	
No. of fluid feed-throughs		4	
No. of E-fittings on the output end		4	
Description		PPU-E 15-H150-V060-01-PF6	
No. of fluid feed-throughs		6	
No. of E-fittings on the output end		6	

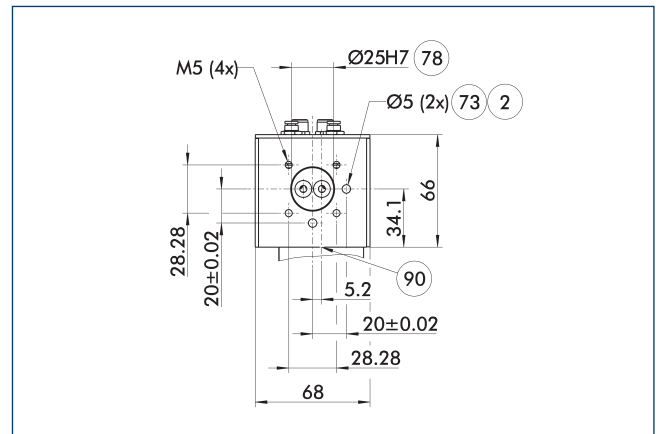
Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

- ① Connection Pick & Place-Unit
- ② Attachment connection
- ①⑨ Air connection
- ③① Motor plug
- ③⑥ Connection plug for the stroke measuring system
- ⑦③ Fit for centering pins
- ⑧⑦ Depth of the centering sleeve hole in the counter part
- ⑧⑤ Sensor feed-through output
- ⑨⑦ Reference point for the following side views

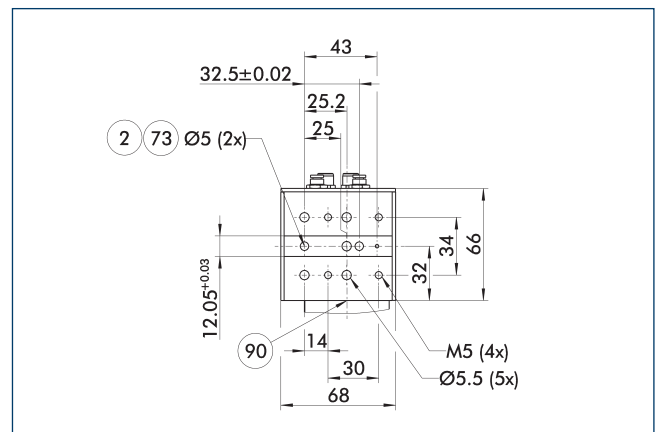
Version PF2, PF4 and PF6 with basic interface



- | | |
|---------------------------|-----------------------------------|
| ② Attachment connection | ⑦⑧ Fit for centering |
| ⑦③ Fit for centering pins | ⑨⑩ Reference point from main view |

The illustration shows the mechanical mounting surface for variants with built-in valves and basic interfaces.

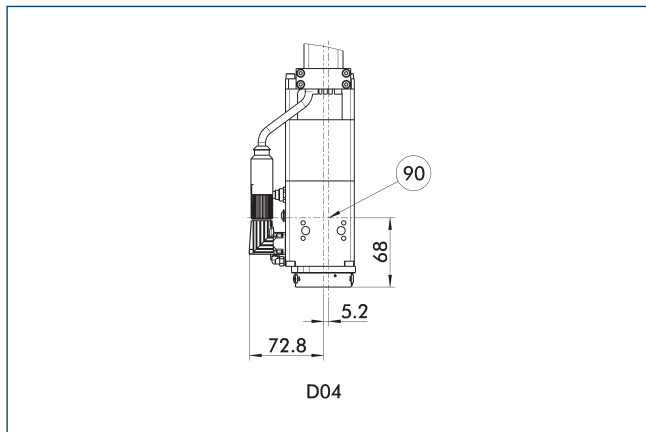
Version PF2, PF4 and PF6 with modular interface



- ② Attachment connection
⑦③ Fit for centering pins
⑨⑩ Reference point from main view

The illustration shows the mechanical mounting surface for variants with built-in valves and interfaces for the modular system.

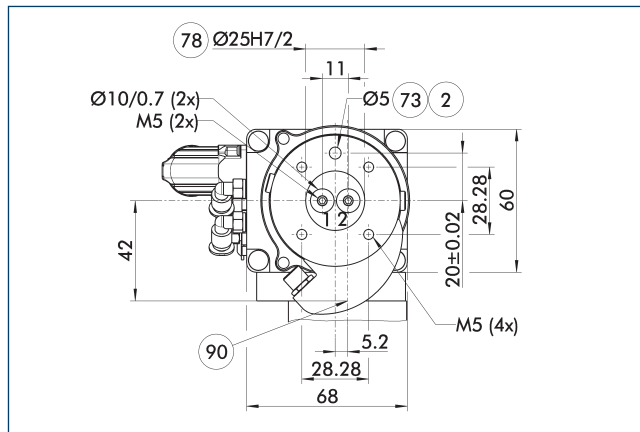
D04 variant



- 90 Reference point from main view

This drawing shows the front of the cantilever arm with an additional torque motor as the C-axis.

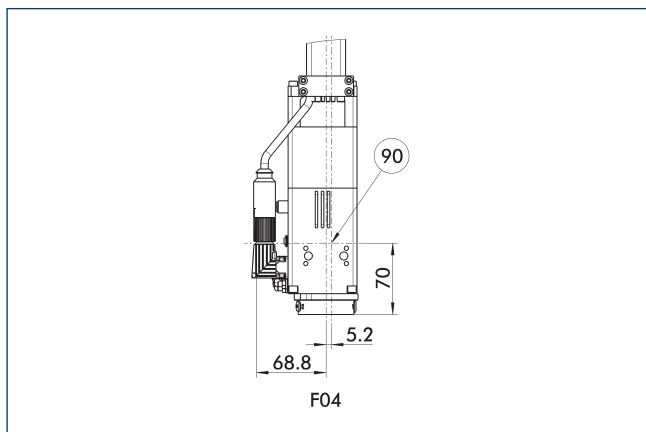
D04 variant



- 2 Attachment connection
73 Fit for centering pins
78 Fit for centering
90 Reference point from main view

The illustration shows the mechanical mounting surface for variants with an additional C axis.

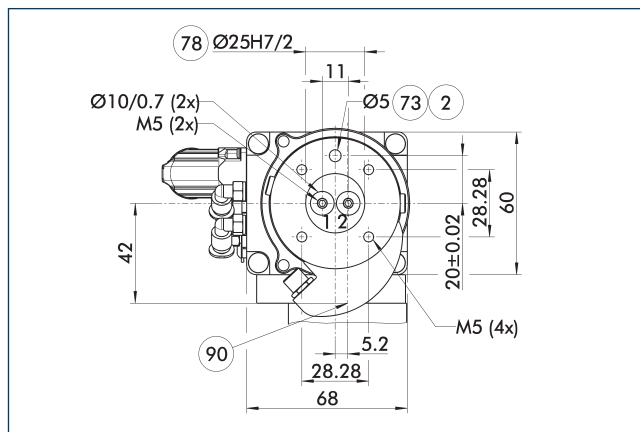
F04 variant



- 90 Reference point from main view

This drawing shows the front of the cantilever arm with an additional torque motor as the C-axis.

F04 variant



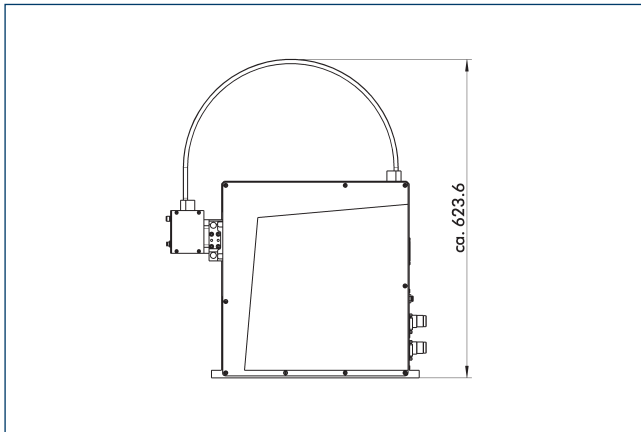
- 2 Attachment connection
73 Fit for centering pins
78 Fit for centering
90 Reference point from main view

The illustration shows the mechanical mounting surface for variants with an additional C axis.

PPU-E 15

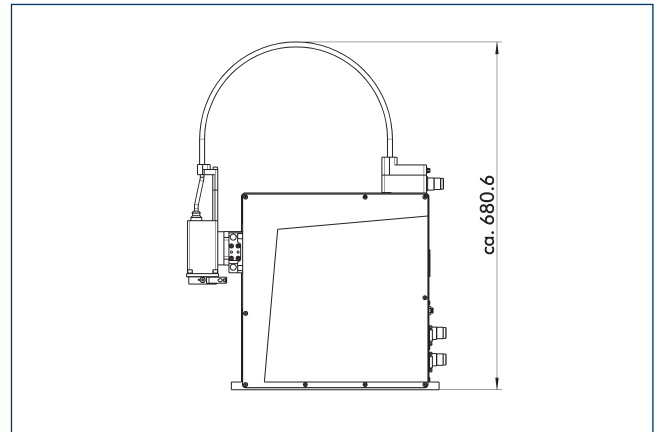
Linear pick & place unit

Hybrid cable for additional Distributor box



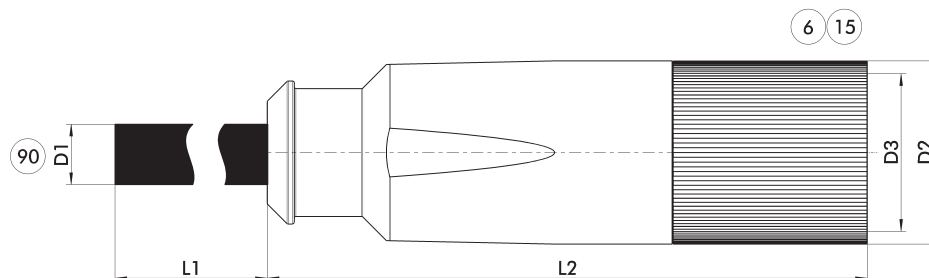
The hybrid cable has integrated air and sensor cables. It is included as standard with the PF2, PF4 and PF6 versions.

Hybrid cable for additional C-axis



The hybrid cable comes with the lines for the C axis, air lines and sensor cable already integrated. It is included as standard with the D04 and F04 versions.

Power cable



Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

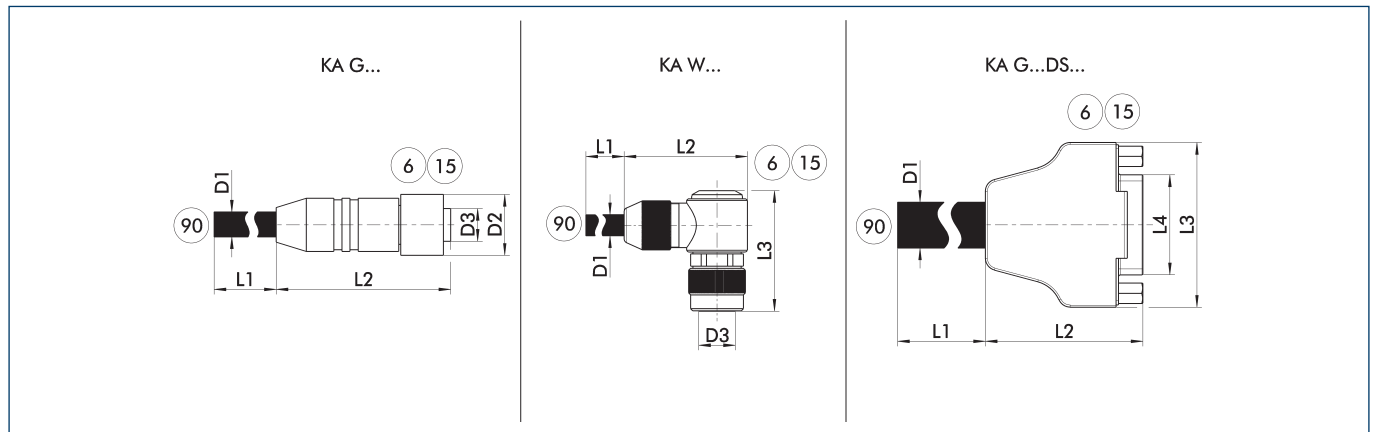
⑥ Connection module side
⑮ Socket

⑨⑩ Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for BOSCH IndraDrive A/B						
KA GLT2306-LK-00500-Q	0349588	5	10	78.5	27	M23
KA GLT2306-LK-01000-Q	0349589	10	10	78.5	27	M23
KA GLT2306-LK-01500-Q	0349590	15	10	78.5	27	M23
KA GLT2306-LK-02000-Q	0349591	20	10	78.5	27	M23
Power cable for Bosch IndraDrive Cs						
KA GLT2306-LK-00500-R	0349592	5	10	78.5	27	M23
KA GLT2306-LK-01000-R	0349593	10	10	78.5	27	M23
KA GLT2306-LK-01500-R	0349594	15	10	78.5	27	M23
KA GLT2306-LK-02000-R	0349595	20	10	78.5	27	M23
Power cable for Siemens SINAMICS						
KA GGT2306-LK-00100-N	0349890	1	10	78.5	27	M23
KA GGT2306-LK-00200-N	0349891	2	10	78.5	27	M23
KA GGT2306-LK-00300-N	0349892	3	10	78.5	27	M23
Power cable for Siemens SINAMICS with DRIVE-CLiQ – cable track compatible						
PPU-E – DQ 05m	1328921	5	10	78.5	27	M23
PPU-E – DQ 10m	1328922	10	10	78.5	27	M23
PPU-E – DQ 15m	1328923	15	10	78.5	27	M23
PPU-E – DQ 20m	1328924	20	10	78.5	27	M23

① Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Encoder cable



KA G... encoder cable with straight plug
 KA W... encoder cable with angled plug
 KA G...DS... Sub D encoder cable

⑥ Connection module side
 ⑮ Socket

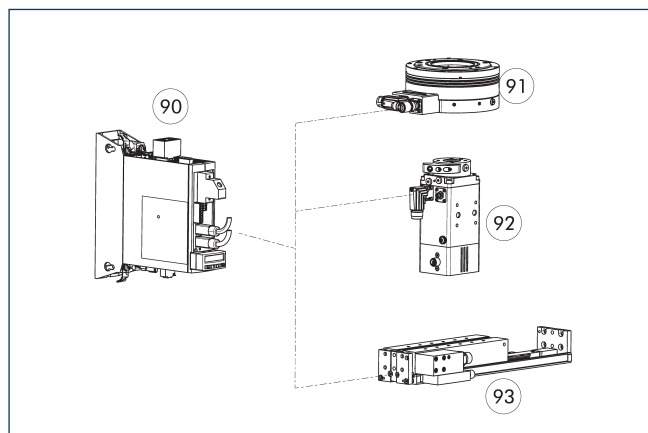
⑨⑩ Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	L3	D3
		[m]	[mm]	[mm]	[mm]	
Encoder cable for BOSCH IndraDrive A/B/Cs and HIPERFACE® encoder interface						
KA GGNS08-GK-00500-N	0349121		5.9	38.8	40	
KA GGNS08-GK-01000-N	0349122	10	5.9	38.8	40	
KA GGNS08-GK-01500-N	0349123	15	5.9	38.8	40	
KA GGNS08-GK-02000-N	0349124	20	5.9	38.8	40	
Encoder cable for BOSCH IndraDrive A/B and 1Vss encoder interface						
KA GWNS15-GK-00500-G	0349521	5	7.3	38.8	40	
KA GWNS15-GK-01000-G	0349522	10	7.3	38.8	40	
KA GWNS15-GK-01500-G	0349523	15	7.3	38.8	40	
KA GWNS15-GK-02000-G	0349524	20	7.3	38.8	40	
Encoder cable for BOSCH IndraDrive Cs and 1Vss encoder interface						
KA GWNS15-GK-00500-J	0349525	5	7.3	38.8	40	
KA GWNS15-GK-01000-J	0349526	10	7.3	38.8	40	
KA GWNS15-GK-01500-J	0349527	15	7.3	38.8	40	
KA GWNS15-GK-02000-J	0349528	20	7.3	38.8	40	
Encoder cable for SIEMENS Sinamics and 1Vss encoder interface						
KA GGNS15-GK-00100-L	0349537	1	7.3	38.8	40	
KA GGNS15-GK-00200-L	0349538	2	7.3	38.8	40	
KA GGNS15-GK-00300-L	0349539	3	7.3	38.8	40	
Sensor cable for Siemens SINAMICS and encoder interface DRIVE-CLiQ – cable track compatible						
PPU-E – DQ 05m	1328914	5	5.9	38.8		M12
PPU-E – DQ 10m	1328915	10	5.9	38.8		M12
PPU-E – DQ 15m	1328916	15	5.9	38.8		M12
PPU-E – DQ 20m	30702075	20	5.9	38.8		M12

① Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Bosch Rexroth IndraDrive Cs controller



- 90 Controller
 91 Rotary module ERS/ERT, electric
 92 ERD Rotary unit
 93 Compact linear module ELB

The controller can be used to operate the rotary modules ERS, ERT and ERD as well as for SCHUNK linear motor axes. It is available with the PROFIBUS or Multi-Ethernet (Sercos III, PROFINET, EtherCAT, EtherNet/IP) communication interfaces.

Description	Nominal current [A]	Maximum current [A]	Note
Controller			
HCS01.1E-W0008	2.7	8	
HCS01.1E-W0018	7.6	18	

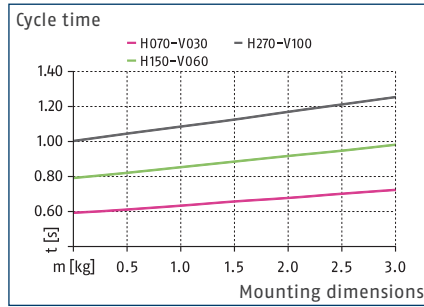
- ① We will be happy to help you select the right controller. Please contact us for assistance.

PPU-E 30

Linear pick & place unit

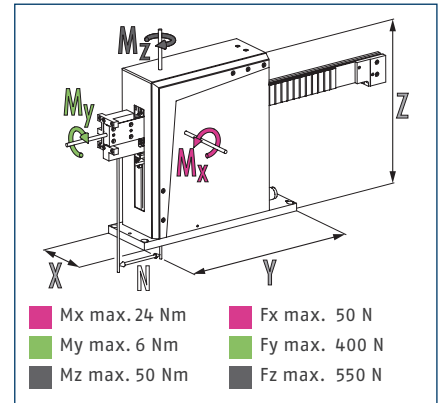


Cycle time



① The diagram is valid for table-mounting. A cycle consists of two horizontal movements (H), four vertical movements (V) and 2 x 60 ms gripping time. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result. We will be happy to help you design other applications.

Dimensions and maximum loads

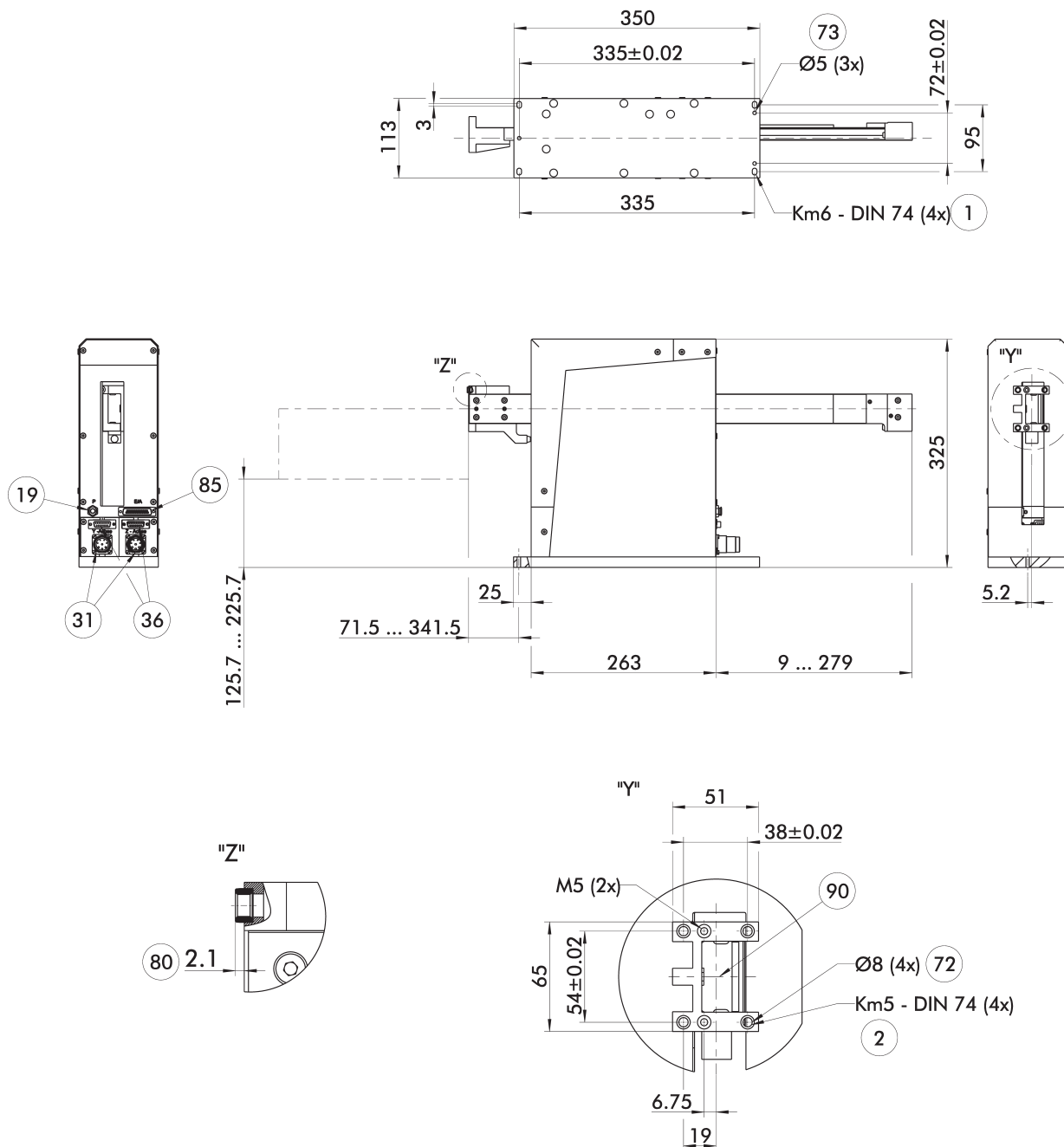


① The indicated moments and forces are static values and may appear simultaneously.

Technical data

Description		PPU-E 30-H270-V100-03-NNN	PPU-E 30-H270-V100-03-PF2	PPU-E 30-H270-V100-03-D04	PPU-E 30-H270-V100-03-F04
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive	Linear direct drive
stroke horizontal [Y-axis]	[mm]	270	270	270	270
stroke vertical [Z-axis]	[mm]	100	100	100	100
Max. driving force [Y/Z axis]	[N]	400/550	400/550	400/550	400/550
Nominal force [Y/Z axis]	[N]	150/195	150/195	150/195	150/195
Max. payload	[kg]	3	3	3	3
Repeat accuracy [y/z axis]	[mm]	0.01/0.01	0.01/0.01	0.01/0.01	0.01/0.01
Max. current [Y/Z axis]	[A]	8/12	8/12	8/12	8/12
Current at standstill [Y/Z axis]	[A]	1.8/3.2	1.8/3.2	1.8/3.2	1.8/3.2
Min./max. ambient temperature	[°C]	10/40	10/40	10/40	10/40
Weight	[kg]	22	23	24.2	26.9
Stroke measuring system interface		Sin/Cos 1Vss	Sin/Cos 1Vss	Sin/Cos 1Vss	Sin/Cos 1Vss
No. of fluid feed-throughs			2		
No. of E-fittings on the output end			2		
Prepared for C-axis				MRD-S 04	ERD 04
No. of fluid feed-throughs				2	2
No. of E-fittings on the output end				1	1
Clearance N (for moment load)	[mm]	73	73	73	73
Dimensions X x Y x Z	[mm]	113 x 335 x 325	113 x 335 x 612.1	113 x 335 x 745.2	113 x 335 x 745.2
Options and their characteristics					
Description			PPU-E 30-H270-V100-03-PF4		
No. of fluid feed-throughs			4		
No. of E-fittings on the output end			4		
Description			PPU-E 30-H270-V100-03-PF6		
No. of fluid feed-throughs			6		
No. of E-fittings on the output end			6		
Description				PPU-E 30-H270-V100-03-D08	PPU-E 30-H270-V100-03-F08
Prepared for C-axis				MRD-S 08	ERD 08
Description				PPU-E 30-H270-V100-03-D12	PPU-E 30-H270-V100-03-F12
Prepared for C-axis				MRD-S 12	ERD 12

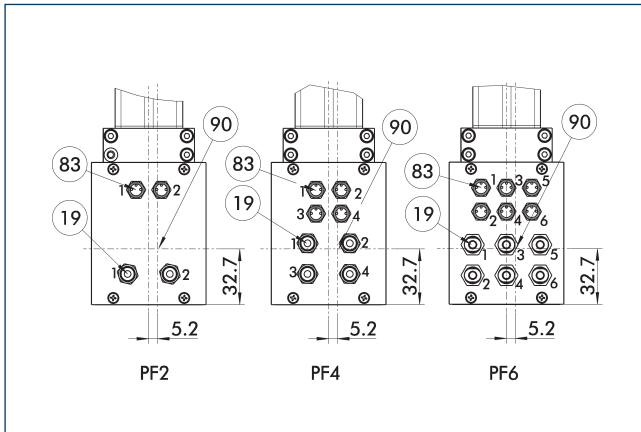
Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

- | | |
|--|---|
| ① Connection Pick & Place-Unit | ⑦② Fit for centering sleeves |
| ② Attachment connection | ⑦③ Fit for centering pins |
| ①⑨ Air connection | ⑧① Depth of the centering sleeve hole in the counter part |
| ③① Motor plug | ⑧⑤ Sensor feed-through output |
| ③⑥ Connection plug for the stroke measuring system | ⑨① Reference point for the following side views |

Version PF2, PF4 and PF6 with basic interface

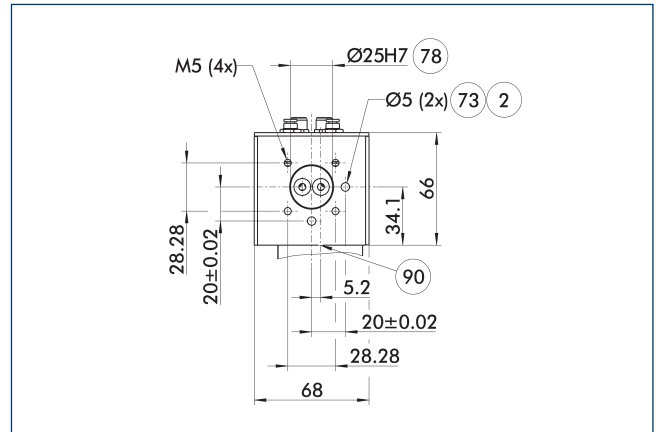


- ①⑨ Air connection
- ⑧③ Input for 3 pole sensor feed-through
- ⑨⑩ Reference point from main view

This drawing shows the front of the cantilever arm with the mechanical base interface for the version with integrated valves.

① Standard interface for the PF2, PF4, and PF6 versions.

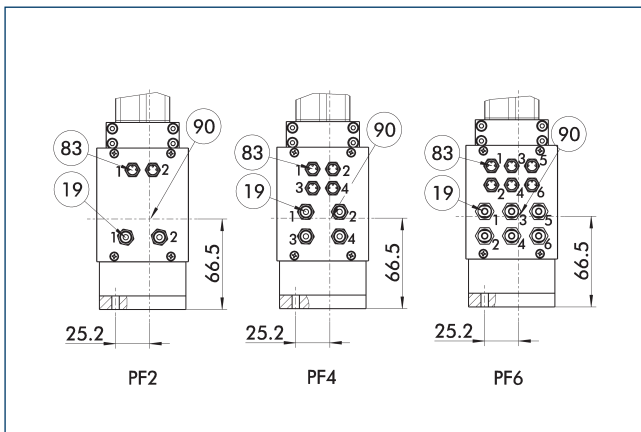
Version PF2, PF4 and PF6 with basic interface



- ② Attachment connection
- ⑦③ Fit for centering pins
- ⑦⑧ Fit for centering
- ⑨⑩ Reference point from main view

The illustration shows the mechanical mounting surface for variants with built-in valves and basic interfaces.

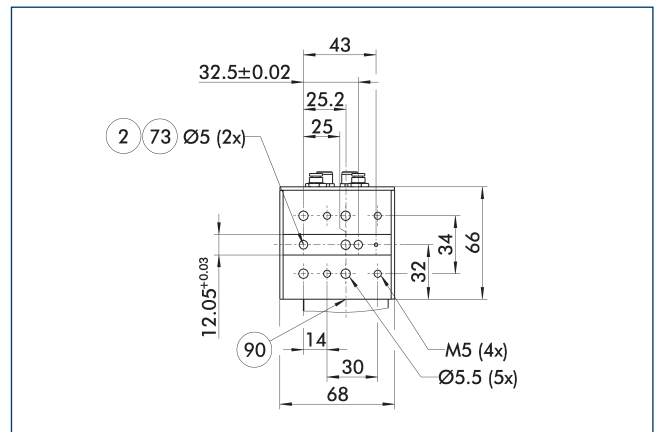
Version PF2, PF4 and PF6 with modular interface



- ①⑨ Air connection
- ⑧③ Input for 3 pole sensor feed-through
- ⑨⑩ Reference point from main view

This drawing shows the front of the cantilever arm with the mechanical interface for the modular version with integrated valves.

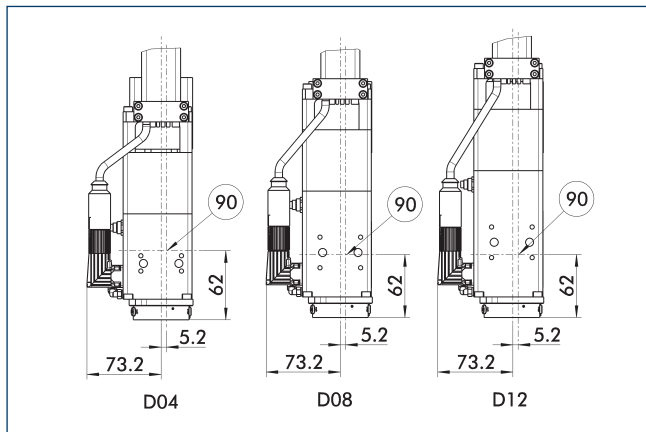
Version PF2, PF4 and PF6 with modular interface



- ② Attachment connection
- ⑦③ Fit for centering pins
- ⑨⑩ Reference point from main view

The illustration shows the mechanical mounting surface for variants with built-in valves and interfaces for the modular system.

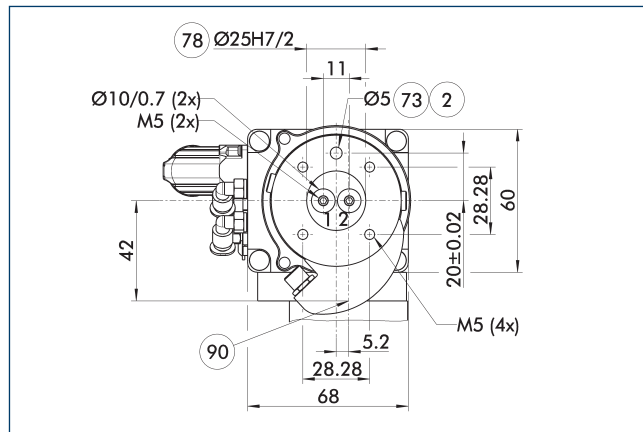
D04, D08 and D12 variants



- 90 Reference point from main view

This drawing shows the front of the cantilever arm with an additional torque motor as the C-axis.

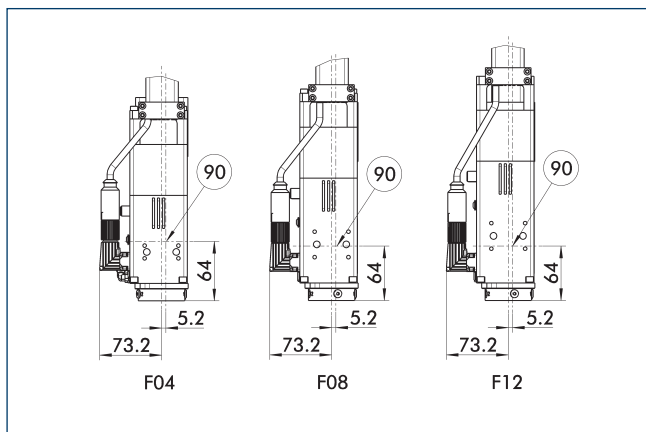
D04, D08 and D12 variants



- 2 Attachment connection
73 Fit for centering pins
78 Fit for centering
90 Reference point from main view

The illustration shows the mechanical mounting surface for variants with an additional C axis.

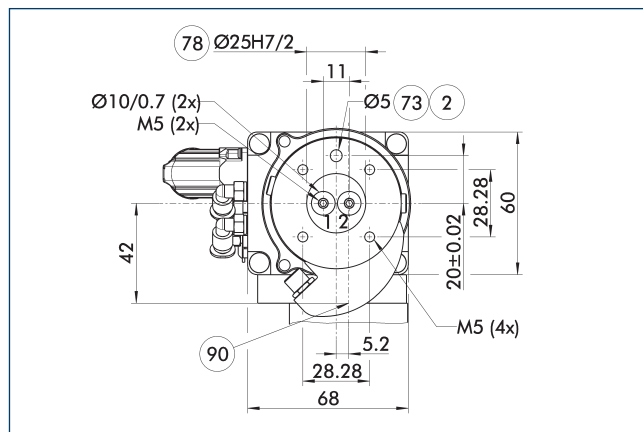
F04, F08 and F12 variants



- 90 Reference point from main view

This drawing shows the front of the cantilever arm with an additional torque motor as the C-axis.

F04, F08 and F12 variants



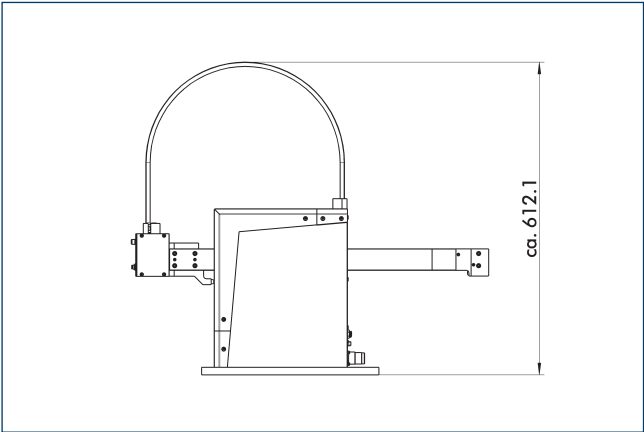
- 2 Attachment connection
73 Fit for centering pins
78 Fit for centering
90 Reference point from main view

The illustration shows the mechanical mounting surface for variants with an additional C axis.

PPU-E 30

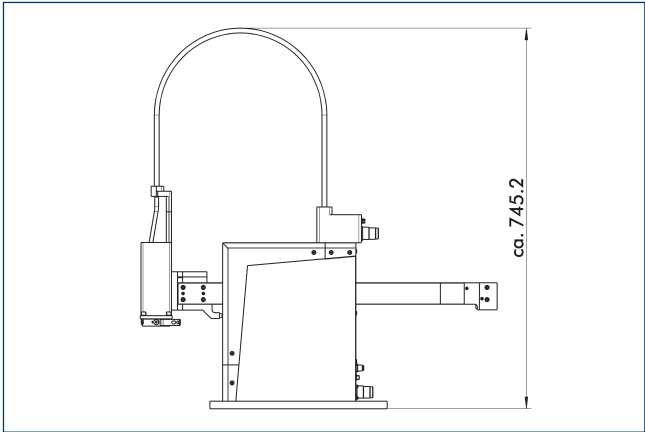
Linear pick & place unit

Hybrid cable for additional Distributor box



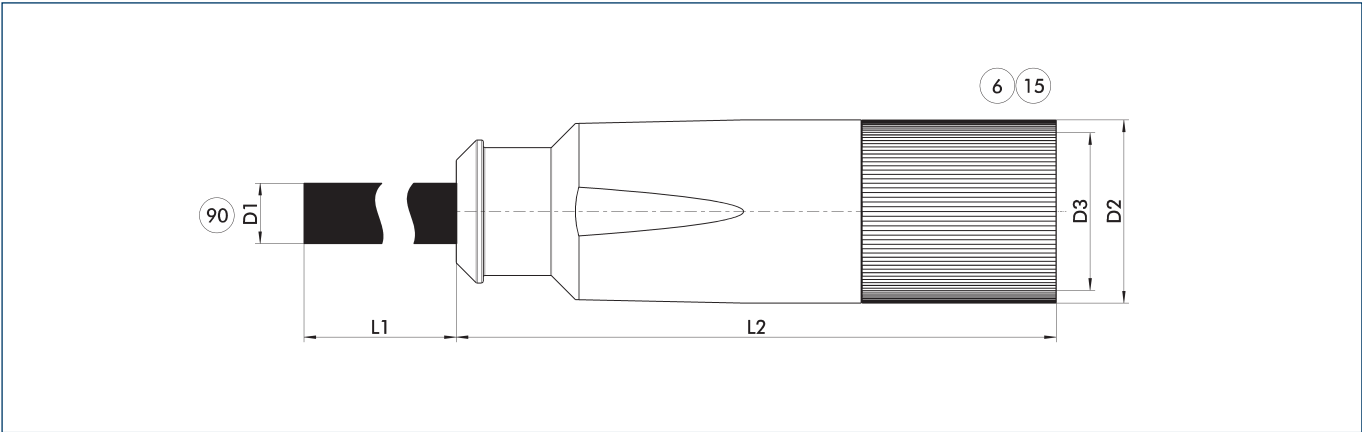
The hybrid cable has integrated air and sensor cables. It is included as standard with the PF2, PF4 and PF6 versions.

Hybrid cable for additional C-axis



The hybrid cable comes with the lines for the C axis, air lines and sensor cable already built in. It is included as standard with the D04, D08, D12, F04, F08 and F12 versions.

Power cable



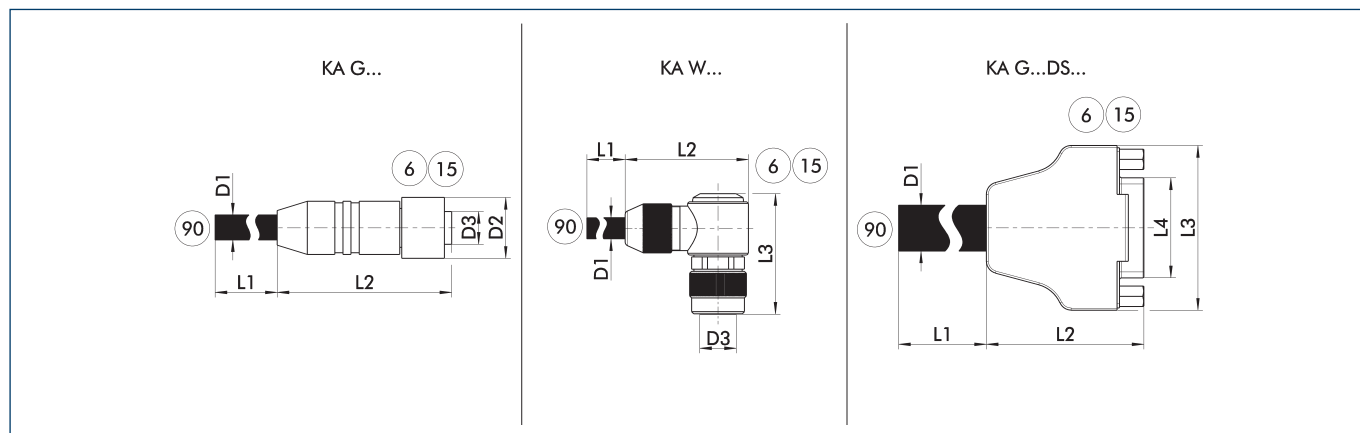
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

- ⑥ Connection module side
- ⑮ Socket
- ⑨⑩ Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for BOSCH IndraDrive A/B						
KA GLT2306-LK-00500-Q	0349588	5	10	78.5	27	M23
KA GLT2306-LK-01000-Q	0349589	10	10	78.5	27	M23
KA GLT2306-LK-01500-Q	0349590	15	10	78.5	27	M23
KA GLT2306-LK-02000-Q	0349591	20	10	78.5	27	M23
Power cable for Bosch IndraDrive Cs						
KA GLT2306-LK-00500-R	0349592	5	10	78.5	27	M23
KA GLT2306-LK-01000-R	0349593	10	10	78.5	27	M23
KA GLT2306-LK-01500-R	0349594	15	10	78.5	27	M23
KA GLT2306-LK-02000-R	0349595	20	10	78.5	27	M23
Power cable for Siemens SINAMICS						
KA GGT2306-LK-00100-N	0349890	1	10	78.5	27	M23
KA GGT2306-LK-00200-N	0349891	2	10	78.5	27	M23
KA GGT2306-LK-00300-N	0349892	3	10	78.5	27	M23

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Encoder cable



KA G... encoder cable with straight plug

KA W... encoder cable with angled plug

KA G...DS... Sub D encoder cable

⑥ Connection module side

⑮ Socket

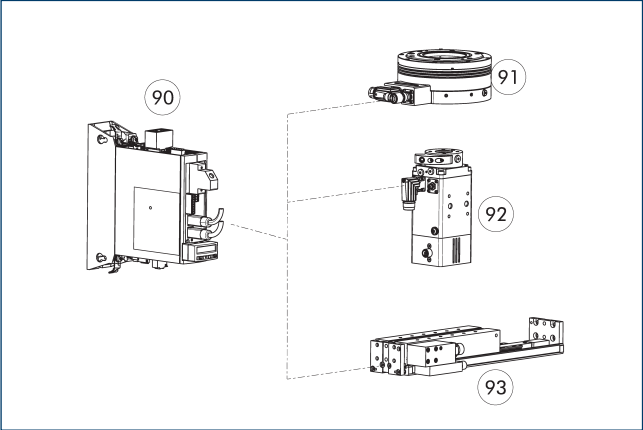
⑨⑩ Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	L3
		[m]	[mm]	[mm]	[mm]
Encoder cable for BOSCH IndraDrive A/B and 1Vss encoder interface					
KA GWNDS15-GK-00500-G	0349521	5	7.3	38.8	40
KA GWNDS15-GK-01000-G	0349522	10	7.3	38.8	40
KA GWNDS15-GK-01500-G	0349523	15	7.3	38.8	40
KA GWNDS15-GK-02000-G	0349524	20	7.3	38.8	40
Encoder cable for BOSCH IndraDrive Cs and 1Vss encoder interface					
KA GWNDS15-GK-00500-J	0349525	5	7.3	38.8	40
KA GWNDS15-GK-01000-J	0349526	10	7.3	38.8	40
KA GWNDS15-GK-01500-J	0349527	15	7.3	38.8	40
KA GWNDS15-GK-02000-J	0349528	20	7.3	38.8	40
Encoder cable for SIEMENS Sinamcis and 1Vss encoder interface					
KA GGND15-GK-00100-L	0349537	1	7.3	38.8	40
KA GGND15-GK-00200-L	0349538	2	7.3	38.8	40
KA GGND15-GK-00300-L	0349539	3	7.3	38.8	40

① Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Bosch Rexroth IndraDrive Cs controller



- 90 Controller
- 91 Rotary module ERS/ERT, electric
- 92 ERD Rotary unit
- 93 Compact linear module ELB

The controller can be used to operate the rotary modules ERS, ERT and ERD as well as for SCHUNK linear motor axes. It is available with the PROFIBUS or Multi-Ethernet (Sercos III, PROFINET, EtherCAT, EtherNet/IP) communication interfaces.

Description	Nominal current	Maximum current	Note
	[A]	[A]	
Controller			
HCS01.1E-W0008	2.7	8	
HCS01.1E-W0018	7.6	18	

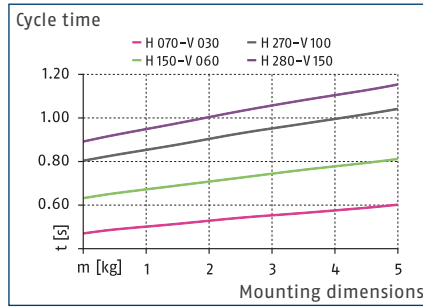
① We will be happy to help you select the right controller. Please contact us for assistance.

PPU-E 50

Linear pick & place unit

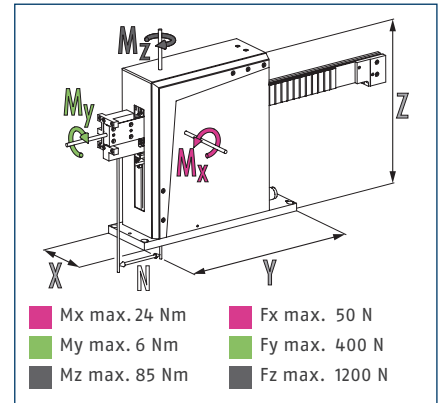


Cycle time



① The diagram is valid for table-mounting. A cycle consists of two horizontal movements (H), four vertical movements (V) and 2 x 60 ms gripping time. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result. We will be happy to help you design other applications.

Dimensions and maximum loads

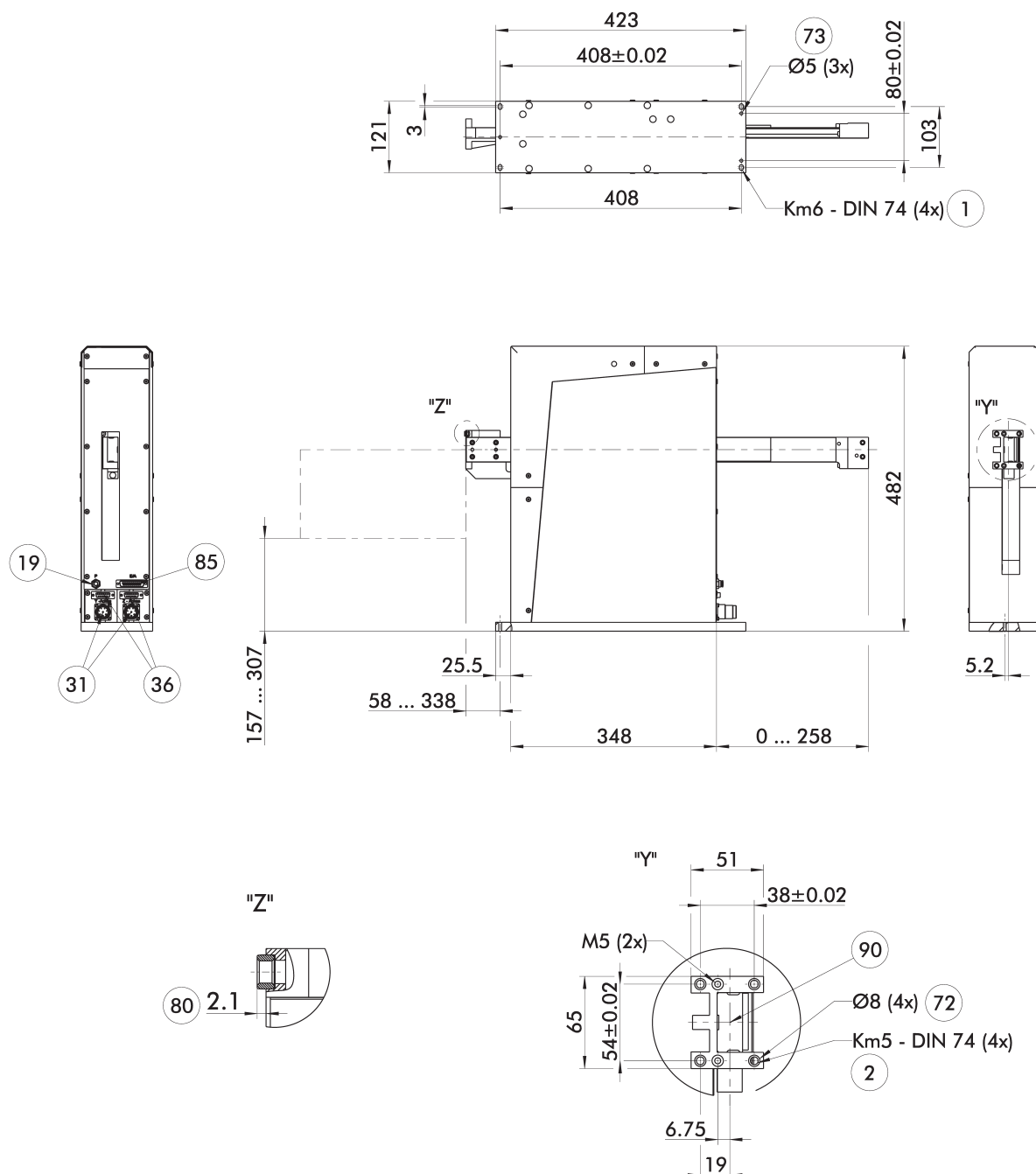


① The indicated moments and forces are static values and may appear simultaneously.

Technical data

Description		PPU-E 50-H280-V150-00-NNN	PPU-E 50-H280-V150-00-PF2	PPU-E 50-H280-V150-00-D04	PPU-E 50-H280-V150-00-F04
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive	Linear direct drive
stroke horizontal [Y-axis]	[mm]	280	280	280	280
stroke vertical [Z-axis]	[mm]	150	150	150	150
Max. driving force [Y/Z axis]	[N]	400/1200	400/1200	400/1200	400/1200
Nominal force [Y/Z axis]	[N]	160/525	160/525	160/525	160/525
Max. payload	[kg]	5	5	5	5
Repeat accuracy [y/z axis]	[mm]	0.01/0.01	0.01/0.01	0.01/0.01	0.01/0.01
Max. current [Y/Z axis]	[A]	8/17	8/17	8/17	8/17
Current at standstill [Y/Z axis]	[A]	1.95/4.68	1.95/4.68	1.95/4.68	1.95/4.68
Min./max. ambient temperature	[°C]	10/40	10/40	10/40	10/40
Weight	[kg]	35	36	37.2	38.2
Stroke measuring system interface		Sin/Cos 1Vss	Sin/Cos 1Vss	Sin/Cos 1Vss	Sin/Cos 1Vss
No. of fluid feed-throughs			2		
No. of E-fittings on the output end			2		
Prepared for C-axis				MRD-S 04	ERD 04
No. of fluid feed-throughs				2	2
No. of E-fittings on the output end				1	1
Clearance N (for moment load)	[mm]	72	72	72	72
Dimensions X x Y x Z	[mm]	121 x 423 x 482	121 x 423 x 779.9	121 x 423 x 886.3	121 x 423 x 886.3
Options and their characteristics					
Description			PPU-E 50-H280-V150-00-PF4		
No. of fluid feed-throughs			4		
No. of E-fittings on the output end			4		
Description			PPU-E 50-H280-V150-00-PF6		
No. of fluid feed-throughs			6		
No. of E-fittings on the output end			6		
Description				PPU-E 50-H280-V150-00-D08	PPU-E 50-H280-V150-00-F08
Prepared for C-axis				MRD-S 08	ERD 08
Description				PPU-E 50-H280-V150-00-D12	PPU-E 50-H280-V150-00-F12
Prepared for C-axis				MRD-S 12	ERD 12

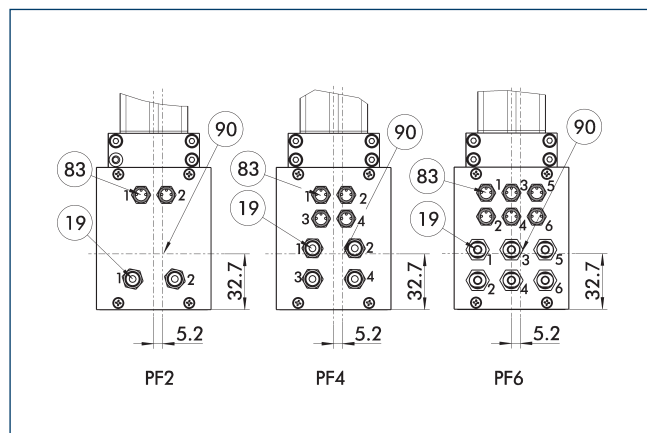
Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

- | | |
|--|---|
| ① Connection Pick & Place-Unit | ⑦② Fit for centering sleeves |
| ② Attachment connection | ⑦③ Fit for centering pins |
| ①⑨ Air connection | ⑧① Depth of the centering sleeve hole in the counter part |
| ③① Motor plug | ⑧⑤ Sensor feed-through output |
| ③⑥ Connection plug for the stroke measuring system | ⑨① Reference point for the following side views |

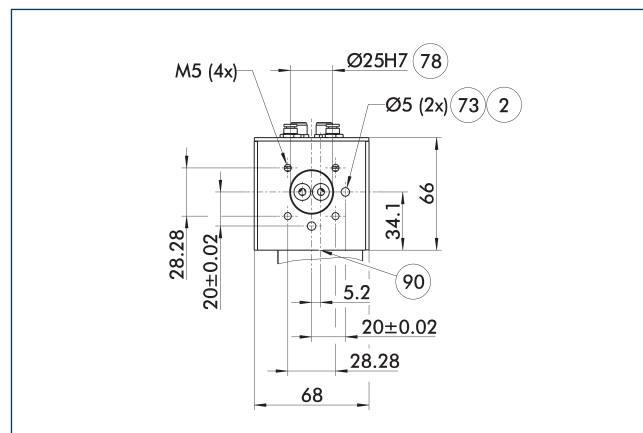
Version PF2, PF4 and PF6 with basic interface



- 19 Air connection
- 83 Input for 3 pole sensor feed-through
- 90 Reference point from main view

This drawing shows the front of the cantilever arm with the mechanical base interface for the version with integrated valves.

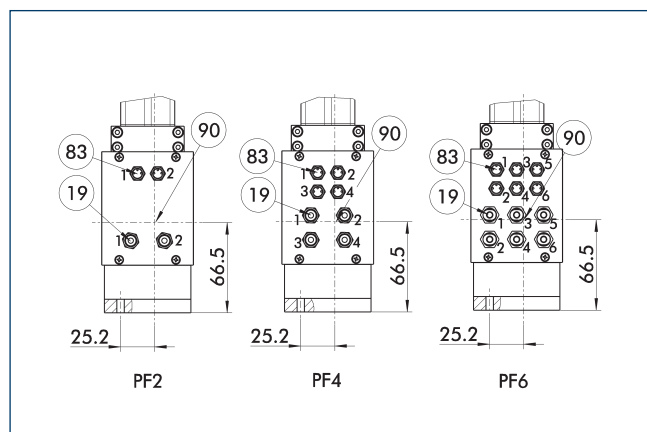
Version PF2, PF4 and PF6 with basic interface



- 2 Attachment connection
- 73 Fit for centering pins
- 78 Fit for centering
- 90 Reference point from main view

The illustration shows the mechanical mounting surface for variants with built-in valves and basic interfaces.

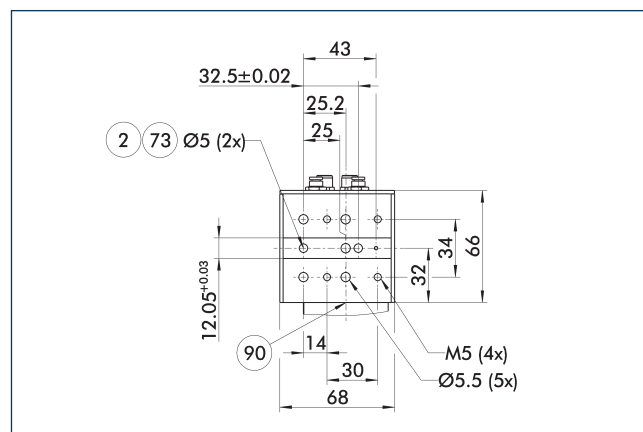
Version PF2, PF4 and PF6 with modular interface



- 19 Air connection
- 83 Input for 3 pole sensor feed-through
- 90 Reference point from main view

This drawing shows the front of the cantilever arm with the mechanical interface for the modular version with integrated valves.

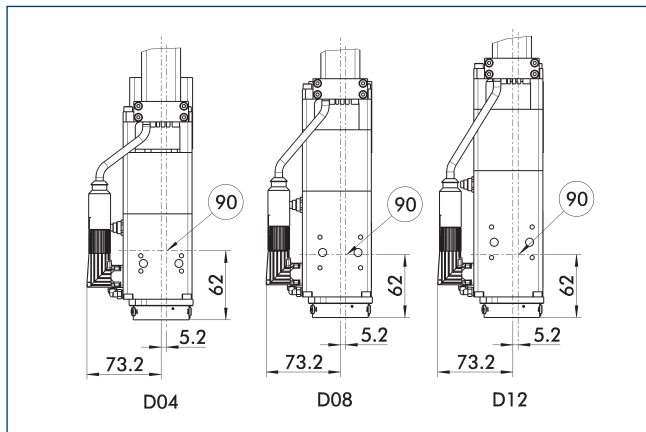
Version PF2, PF4 and PF6 with modular interface



- 2 Attachment connection
- 73 Fit for centering pins
- 90 Reference point from main view

The illustration shows the mechanical mounting surface for variants with built-in valves and interfaces for the modular system.

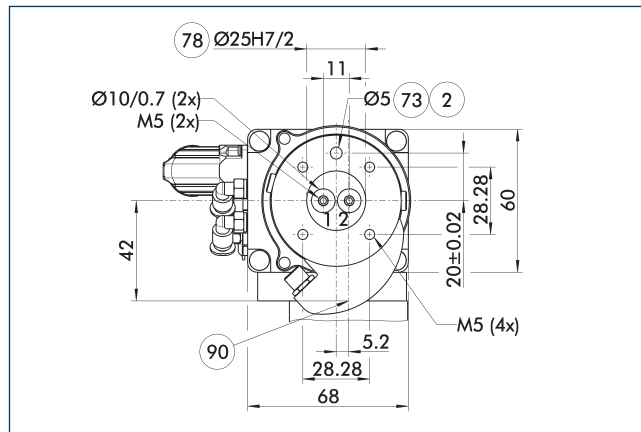
D04, D08 and D12 variants



90 Reference point from main view

This drawing shows the front of the cantilever arm with an additional torque motor as the C-axis.

D04, D08 and D12 variants

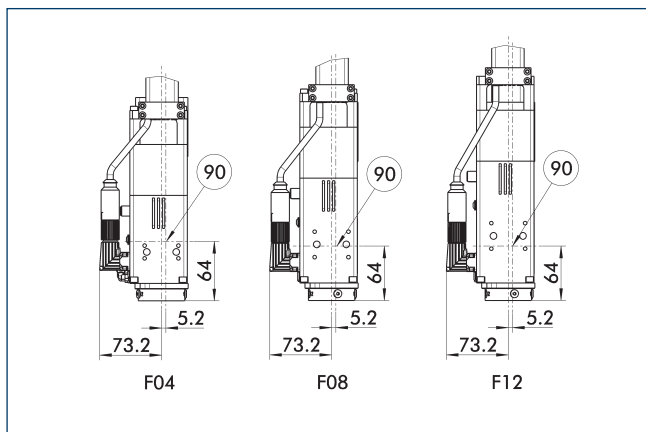


2 Attachment connection
73 Fit for centering pins

78 Fit for centering
90 Reference point from main view

The illustration shows the mechanical mounting surface for variants with an additional C axis.

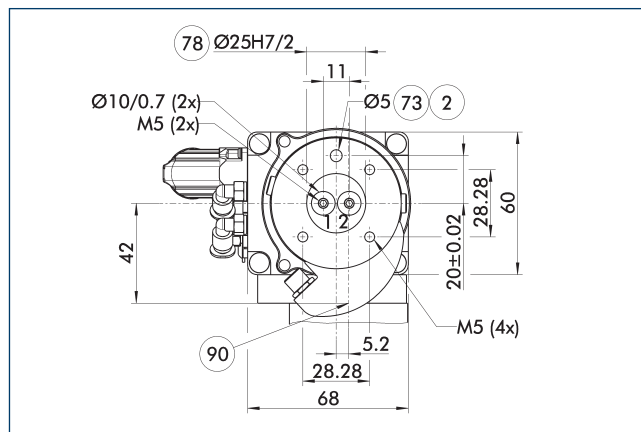
F04, F08 and F12 variants



90 Reference point from main view

This drawing shows the front of the cantilever arm with an additional torque motor as the C-axis.

F04, F08 and F12 variants



2 Attachment connection
73 Fit for centering pins

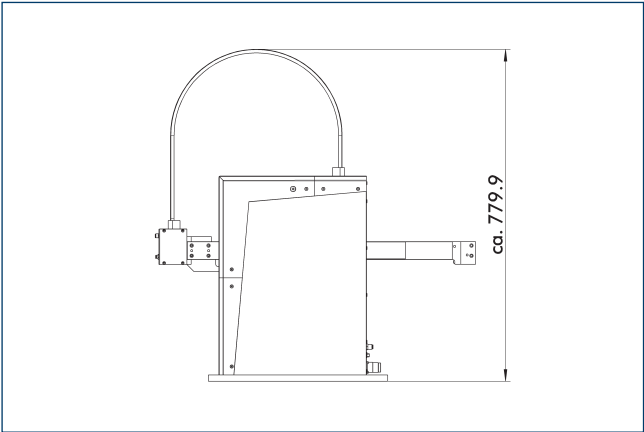
78 Fit for centering
90 Reference point from main view

The illustration shows the mechanical mounting surface for variants with an additional C axis.

PPU-E 50

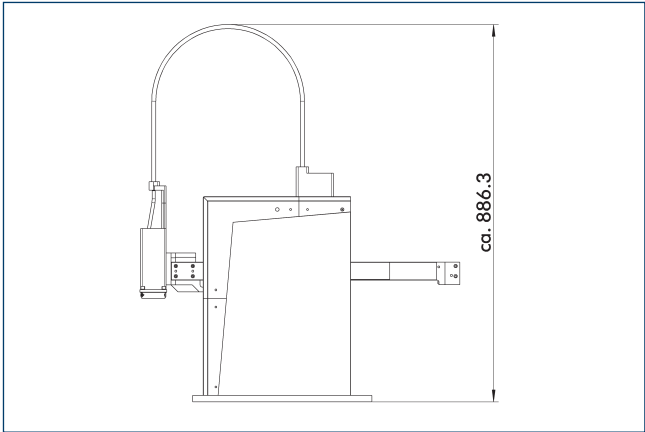
Linear pick & place unit

Hybrid cable for additional Distributor box



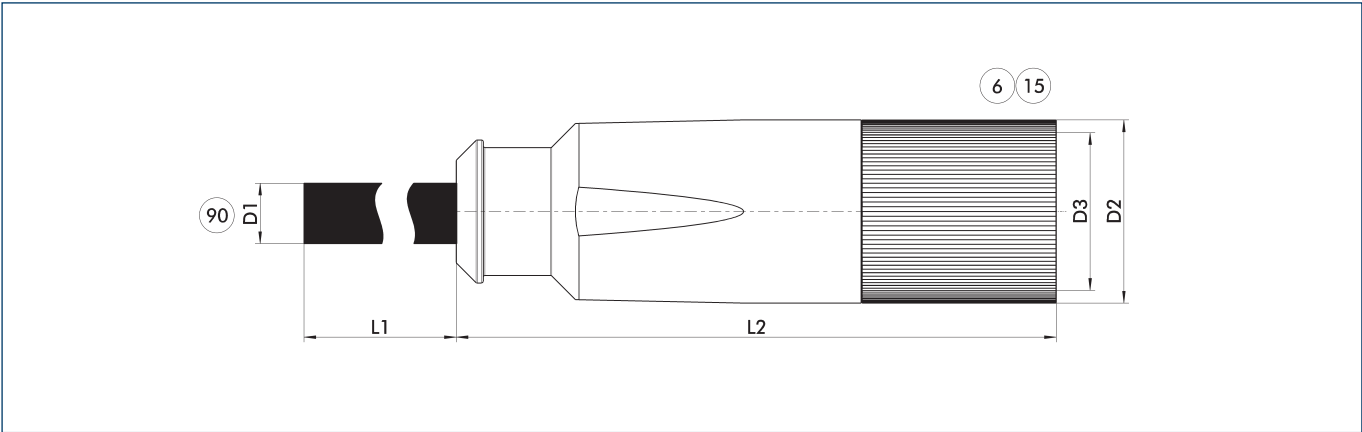
The hybrid cable has integrated air and sensor cables. It is included as standard with the PF2, PF4 and PF6 versions.

Hybrid cable for additional C-axis



The hybrid cable comes with the lines for the C axis, air lines and sensor cable already built in. It is included as standard with the D04, D08, D12, F04, F08 and F12 versions.

Power cable



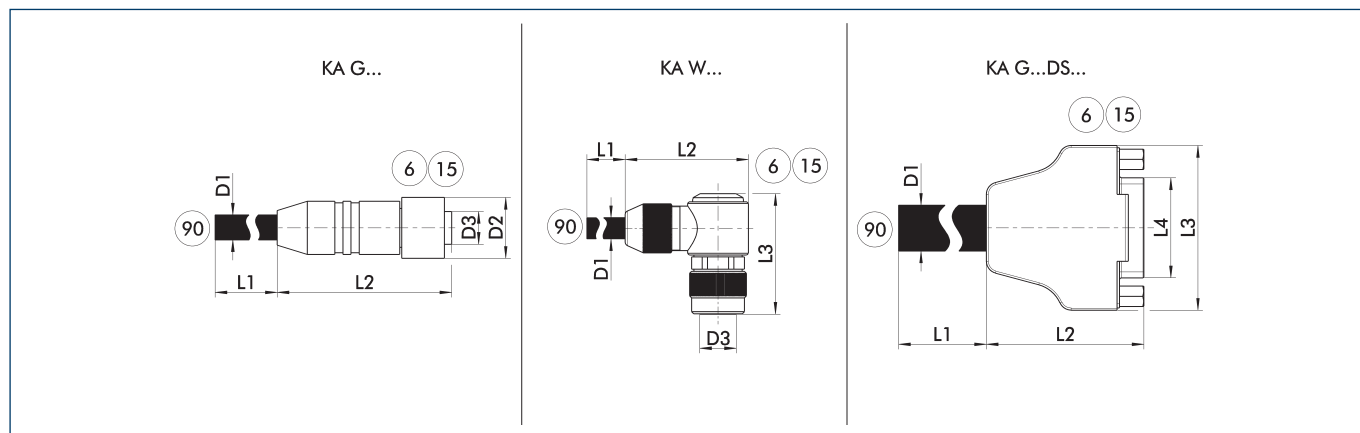
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

- ⑥ Connection module side
- ⑮ Socket
- ⑨⑩ Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for BOSCH IndraDrive A/B						
KA GLT2306-LK-00500-Q	0349588	5	10	78.5	27	M23
KA GLT2306-LK-01000-Q	0349589	10	10	78.5	27	M23
KA GLT2306-LK-01500-Q	0349590	15	10	78.5	27	M23
KA GLT2306-LK-02000-Q	0349591	20	10	78.5	27	M23
Power cable for Bosch IndraDrive Cs						
KA GLT2306-LK-00500-R	0349592	5	10	78.5	27	M23
KA GLT2306-LK-01000-R	0349593	10	10	78.5	27	M23
KA GLT2306-LK-01500-R	0349594	15	10	78.5	27	M23
KA GLT2306-LK-02000-R	0349595	20	10	78.5	27	M23
Power cable for Siemens SINAMICS						
KA GGT2306-LK-00100-N	0349890	1	10	78.5	27	M23
KA GGT2306-LK-00200-N	0349891	2	10	78.5	27	M23
KA GGT2306-LK-00300-N	0349892	3	10	78.5	27	M23

① Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Encoder cable



KA G... encoder cable with straight plug

KA W... encoder cable with angled plug

KA G...DS... Sub D encoder cable

⑥ Connection module side

⑮ Socket

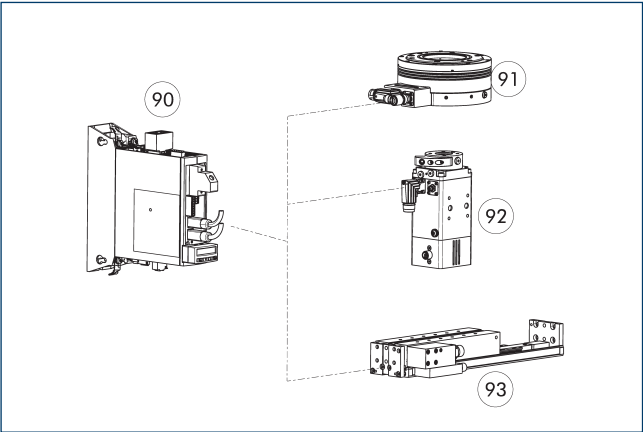
⑨⑩ Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	L3
		[m]	[mm]	[mm]	[mm]
Encoder cable for BOSCH IndraDrive A/B and 1Vss encoder interface					
KA GWNDS15-GK-00500-G	0349521	5	7.3	38.8	40
KA GWNDS15-GK-01000-G	0349522	10	7.3	38.8	40
KA GWNDS15-GK-01500-G	0349523	15	7.3	38.8	40
KA GWNDS15-GK-02000-G	0349524	20	7.3	38.8	40
Encoder cable for BOSCH IndraDrive Cs and 1Vss encoder interface					
KA GWNDS15-GK-00500-J	0349525	5	7.3	38.8	40
KA GWNDS15-GK-01000-J	0349526	10	7.3	38.8	40
KA GWNDS15-GK-01500-J	0349527	15	7.3	38.8	40
KA GWNDS15-GK-02000-J	0349528	20	7.3	38.8	40
Encoder cable for SIEMENS Sinamcis and 1Vss encoder interface					
KA GGND15-GK-00100-L	0349537	1	7.3	38.8	40
KA GGND15-GK-00200-L	0349538	2	7.3	38.8	40
KA GGND15-GK-00300-L	0349539	3	7.3	38.8	40

① Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Bosch Rexroth IndraDrive Cs controller



- 90 Controller
- 91 Rotary module ERS/ERT, electric
- 92 ERD Rotary unit
- 93 Compact linear module ELB

The controller can be used to operate the rotary modules ERS, ERT and ERD as well as for SCHUNK linear motor axes. It is available with the PROFIBUS or Multi-Ethernet (Sercos III, PROFINET, EtherCAT, EtherNet/IP) communication interfaces.

Description	Nominal current	Maximum current	Note
	[A]	[A]	
Controller			
HCS01.1E-W0008	2.7	8	
HCS01.1E-W0018	7.6	18	

① We will be happy to help you select the right controller. Please contact us for assistance.



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