HG

HN

HG/HN LINEAR MOTOR AXES

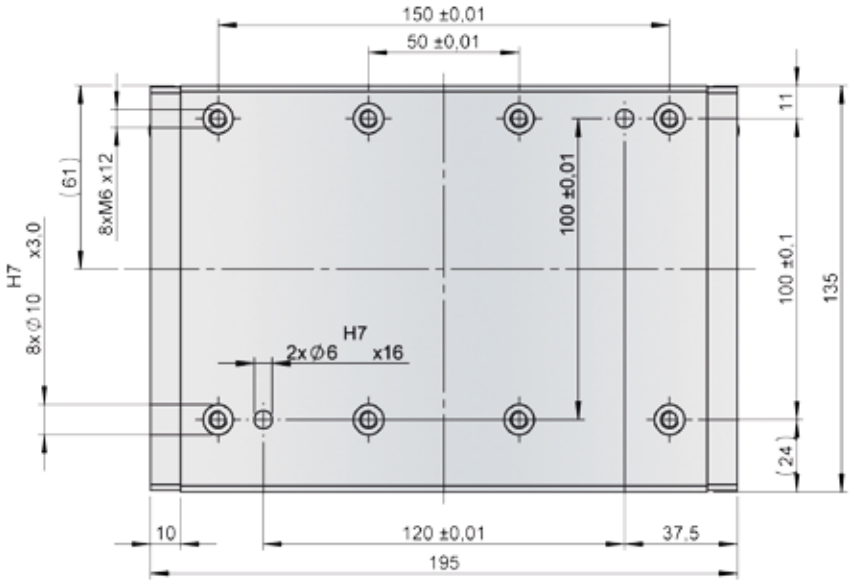
TWO SIZES

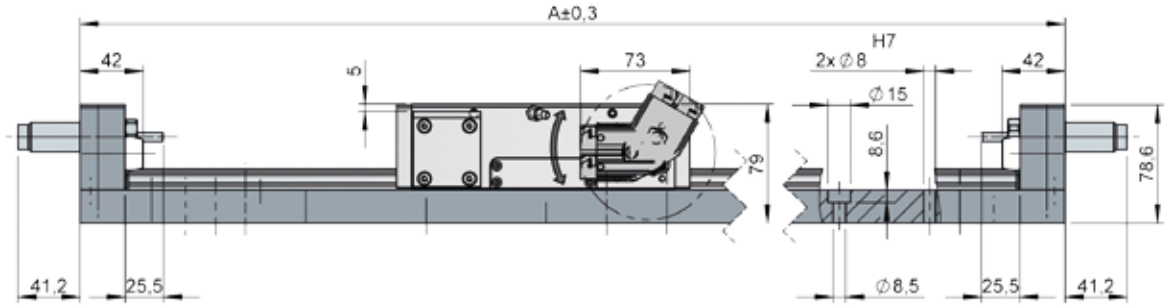
The two sizes of the HG axis: HG 25 with a peak force of 180 N, and HG 12 with a peak force of 110 N

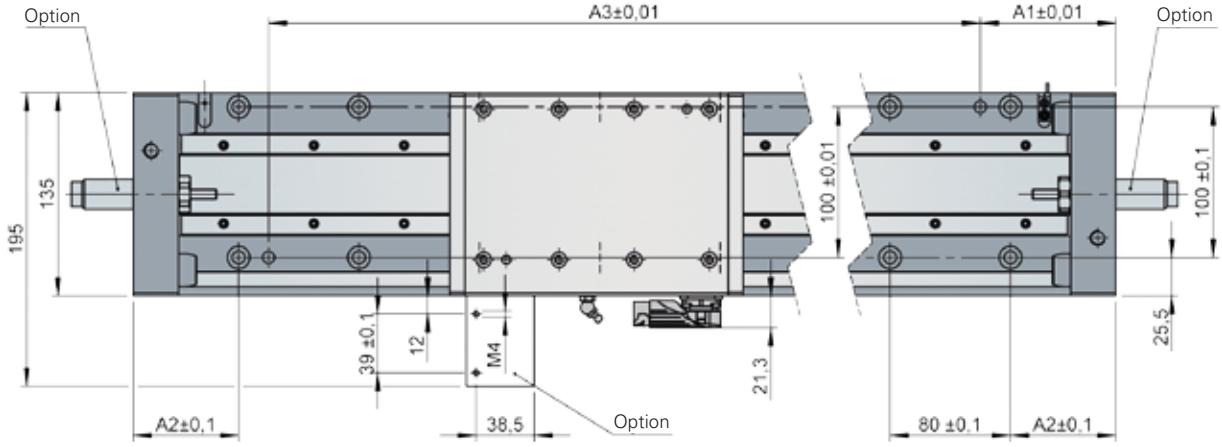
WEISS APPLICATION SOFTWARE

Fast, easy and secure setting through its unique user software

DIMENSIONS







Standard strokes	A	A1	A2	A3
500	**780**	**90**	**70**	**600**
1000	1280	140	80	1000
1500	**1780**	**140**	**90**	**1500**
2000	2280	140	100	2000

Intermediate strokes available in 100 mm steps on request

OKU relies on the perfect combination of HN and HL axes for its ball bearing assembly cell. User-programmable linear motor axes are the ideal choice for extremely fast process movements and strict requirements in terms of both dynamic performance and precision.

The latest in uncompromising, highly dynamic drive technology for your basic axis. Highly integrated and ready for installation. Compact and precise ball-type linear guides and an absolute measuring system are just as much a part of the concept as the automatic lubrication. The HN version is available in many different sizes – with a robust steel body or lightweight aluminium body. The aluminium profile-based HG axes can also be used in areas in which cost factors have typically made conventional drives the standard choice in the past: the most advanced linear technology at extremely attractive conditions. Both versions impress with their smooth movements and maximum dynamics.

ADVANTAGES

- Freely positionable
- Extremely dynamic
- Monitored movement
- No maintenance costs, no wearing parts
- Hygienic linear drive/no pneumatics, no oil, no gearbox
- Low energy costs
- Compact design
- Convincing price-quality ratio (particularly in the case of HG axes)
- HN axes with high power density available in many different sizes
- HG axes with covered guide profile with standard attachment options
- Absolute measuring system (up to 1,000 mm)

HG 12

TECHNICAL DATA

Nom. force (N)	33
Peak force(N)	102
Max. speed (m/s)	4
Max. acceleration (m/s²)	40
Max. load capacity (kg)	5
Max. DC voltage (VDC)	800
Nom. current (Arms)	0.6
Peak current (Arms)	2
System accuracy (µm/m)	10 incremental (Sin/Cos 1Vss)

System accuracy (µm/m)	5 absolute (BISS/C, SSI) up to 1 m
Repeatability (µm)	5 incremental (Sin/Cos 1Vss)
Repeatability (µm)	2 absolute (BISS/C, SSI) up to 1 m
Available strokes (mm)	up to 1000
Thermal sensor	PTC
Weight of rail, 0 stroke (kg)	1.44
Weight of rail/100 mm (kg)	0.72
Weight of carriage (kg)	1.45

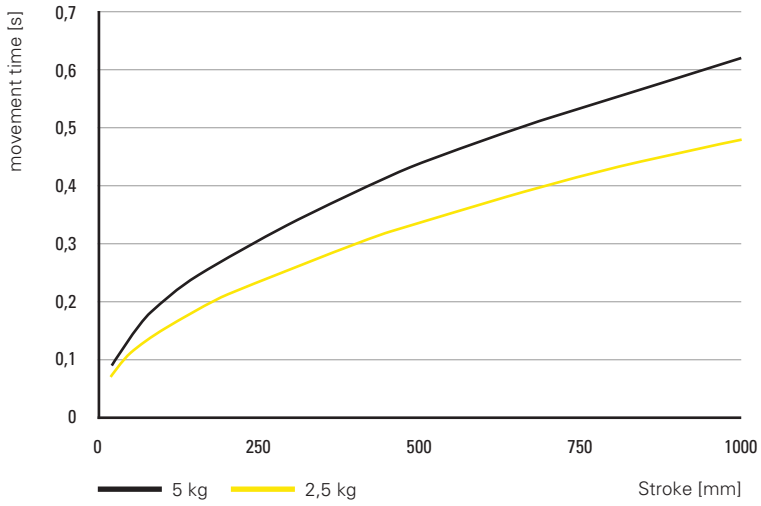
STATIC LOAD

150 Nm | **150 Nm** | **40 Nm** | **300 N** | **150 N**

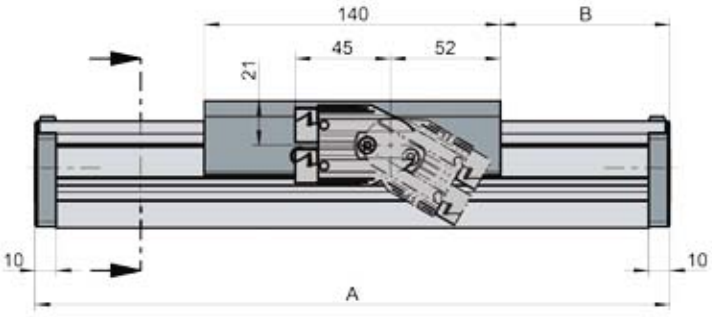
DYNAMIC LOAD

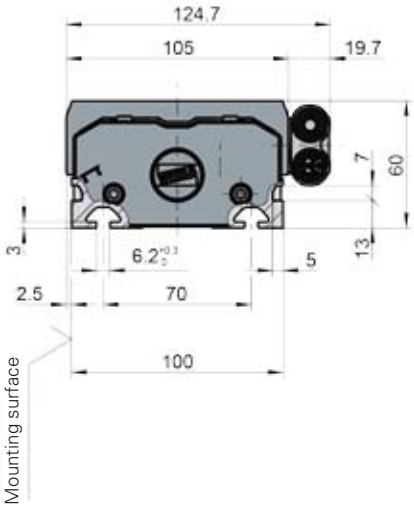
20 Nm | **20 Nm** | **8 Nm** | **200 N** | **150 N**

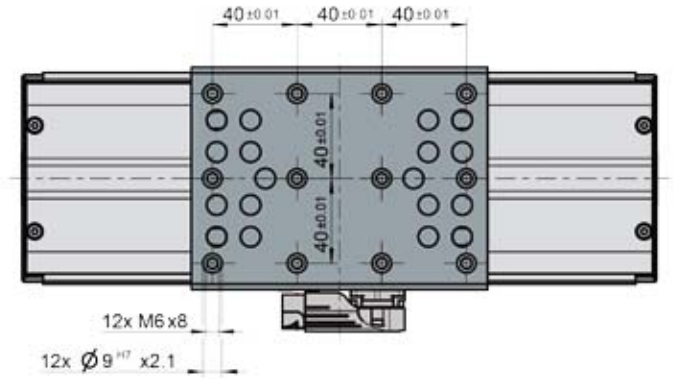
TIMING DIAGRAM

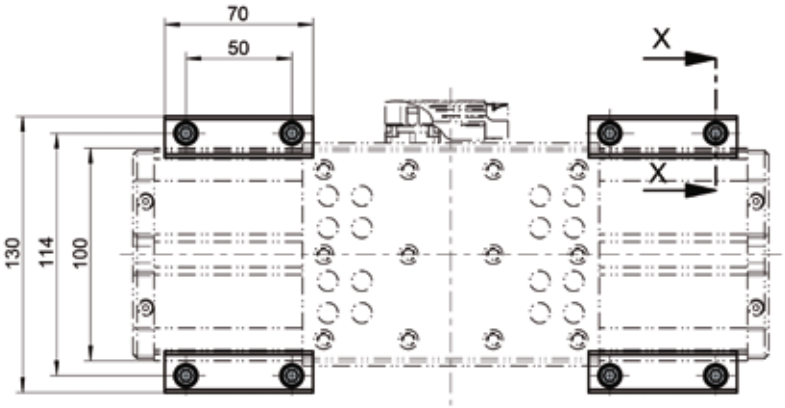


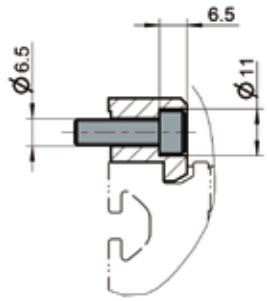
DIMENSIONS











X-X (1:1)

Standard strokes	A	B
100	**300**	**80**
200	400	130
300	**500**	**180**
400	600	230
500	**700**	**280**
600	800	330
700	**900**	**380**
800	1000	430
900	**1100**	**480**
1000	1200	530

HG 25

TECHNICAL DATA

Nom. force (N)	65
Peak force (N)	180
Max. speed (m/s)	4
Max. acceleration (m/s²)	40
Max. load capacity (kg)	10
Max. DC voltage (VDC)	800
Nom. current (Arms)	2.4
Peak current (Arms)	6
System accuracy (µm/m)	10 incremental (Sin/Cos 1Vss)

System accuracy (µm/m)	5 absolute (BISS/C, SSI) up to 1 m
Repeatability (µm)	5 incremental (Sin/Cos 1Vss)
Repeatability (µm)	2 absolute (BISS/C, SSI) up to 1 m
Available strokes (mm)	up to 1000
Thermal sensor	PTC
Weight of rail, 0 stroke (kg)	2.24
Weight of rail/100 mm (kg)	1.00
Weight of carriage (kg)	2.05

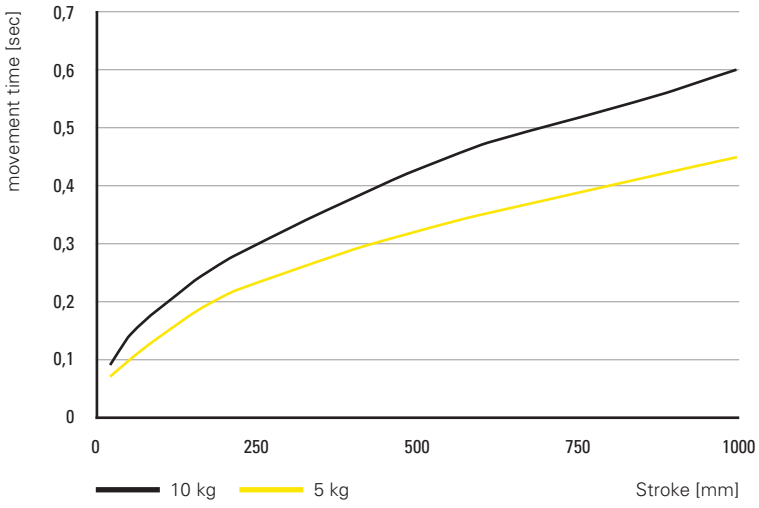
STATIC LOAD

200 Nm | **200 Nm** | **100 Nm** | **500 N** | **250 N**

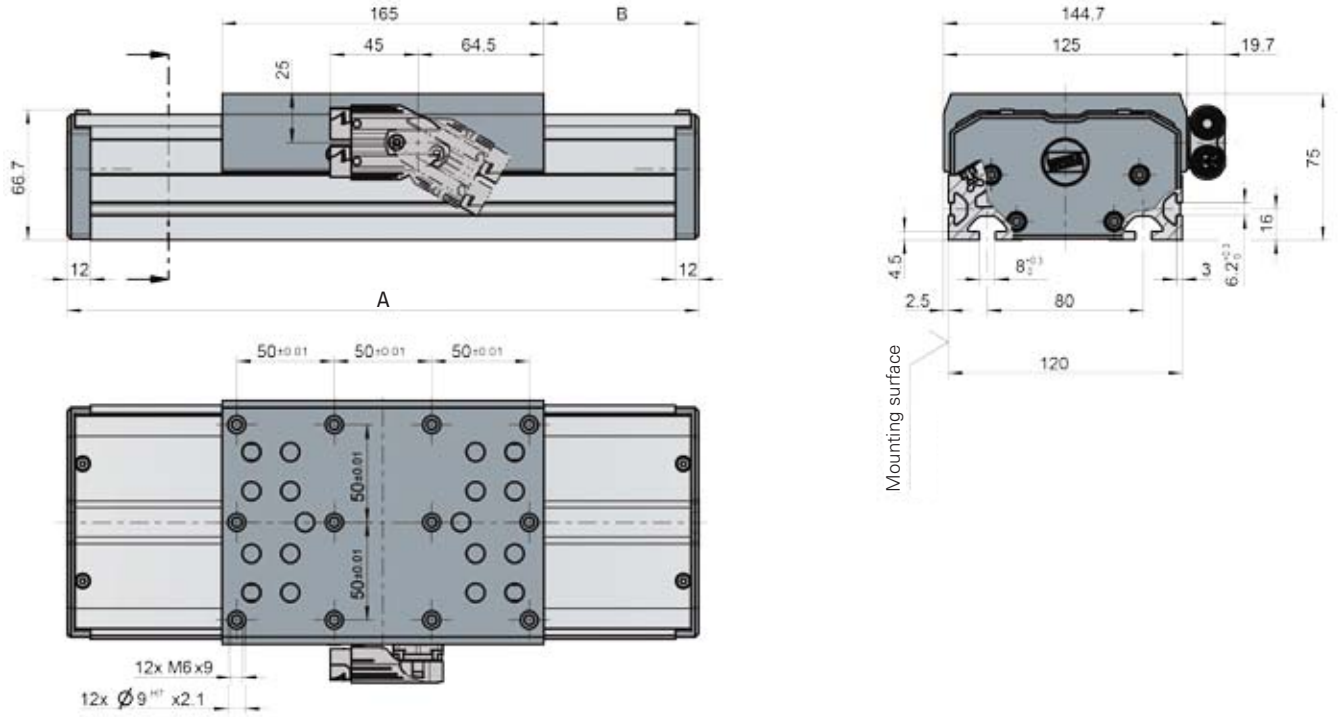
DYNAMIC LOAD

30 Nm | **30 Nm** | **15 Nm** | **150 N** | **100 N**

TIMING DIAGRAM



DIMENSIONS



X-X (1:1)

Standard strokes	A	B
100	**324**	**79.5**
200	424	129.5
300	**524**	**179.5**
400	624	229.5
500	**724**	**279.5**
600	824	329.5
700	**924**	**379.5**
800	1024	429.5
900	**1124**	**479.5**
1000	1224	529.5

HN 50

TECHNICAL DATA

Nom. force (N)	65
Peak force (N)	180
Max. speed (m/s)	4
Max. acceleration (m/s²)	40
Max. load capacity (kg)	15
Max. DC voltage (VDC)	800
Nom. current (Arms)	2.4
Peak current (Arms)	6
System accuracy (µm/m)	10 incremental (Sin/Cos 1Vss)
System accuracy (µm/m)	5 absolute (BISS/C, SSI) up to 1 m
Repeatability (µm)	5 incremental (Sin/Cos 1Vss)
Repeatability (µm)	2 absolute (BISS/C, SSI) up to 1 m

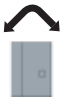
Available strokes (mm)	up to 2000
Thermal sensor	PTC

Weight	Steel base	Alu base
of rail, 0 stroke (kg):	6.00	2.51
of rail/100 mm (kg):	1.82	0.83
of carriage (kg):	2.20	2.20

STATIC LOAD

200 Nm

200 Nm



50 Nm

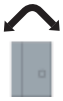
500 N

250 N

DYNAMIC LOAD

20 Nm

20 Nm

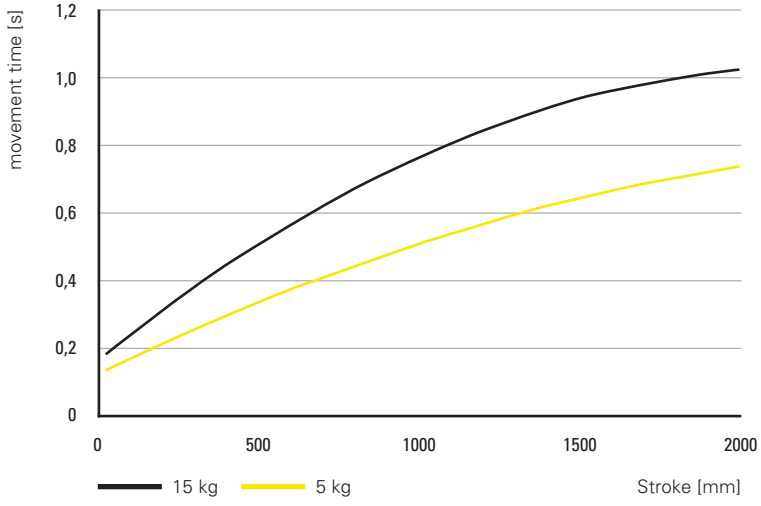


10 Nm

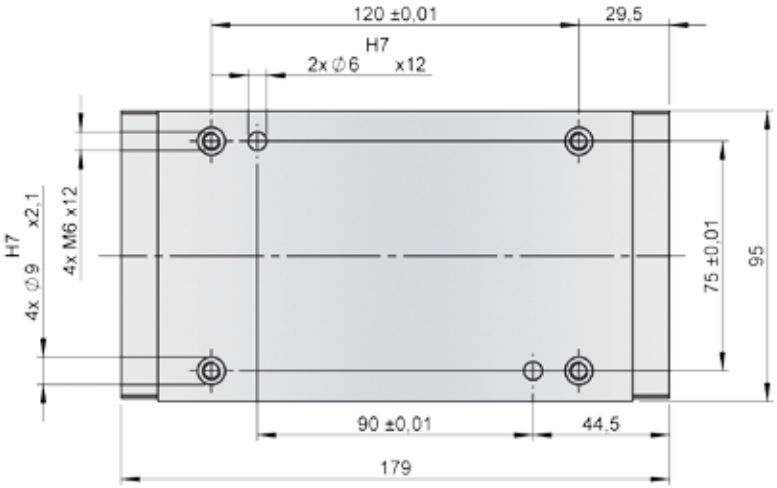
150 N

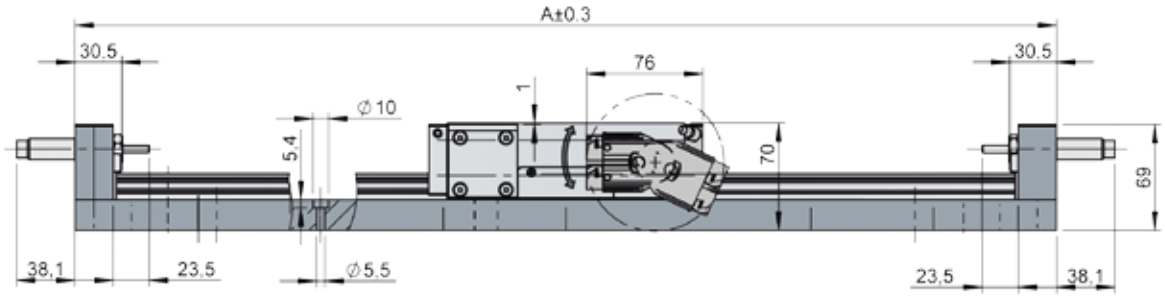
100 N

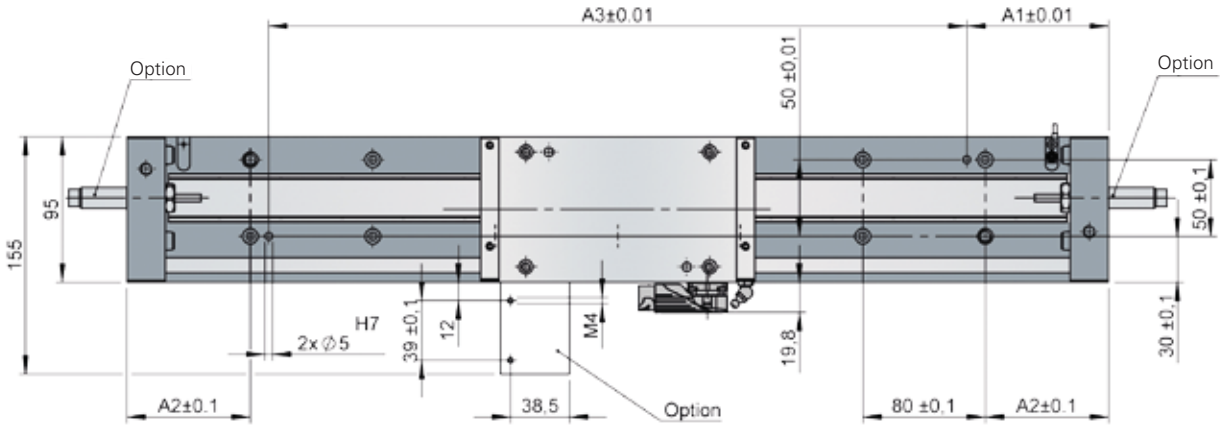
TIMING DIAGRAM



DIMENSIONS







Standard strokes	A	A1	A2	A3
300	**541**	**122.5**	**110.5**	**296**
500	741	62.5	50.5	616
1000	**1241**	**72.5**	**60.5**	**1096**

Intermediate strokes available in 100 mm steps on request

HN 100

TECHNICAL DATA

Nom. force (N)	150
Peak force (N)	380
Max. speed (m/s)	4
Max. acceleration (m/s²)	40
Max. load capacity (kg)	25
Max. DC voltage (VDC)	800
Nom. current (Arms)	3.6
Peak current (Arms)	9.5
System accuracy (µm/m)	10 incremental (Sin/Cos 1Vpp)
System accuracy (µm/m)	5 absolute (BISS/C, SSI) up to 1 m

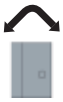
Repeatability (µm)	5 incremental (Sin/Cos 1Vpp)
Repeatability (µm)	2 absolute (BISS/C, SSI) up to 1 m
Available strokes (mm)	up to 4000
Thermal sensor	PTC

Weight	Steel base	Alu base
of rail, 0 stroke (kg):	11.50	5.59
of rail/100 mm (kg):	2.99	1.61
of carriage (kg):	4.70	4.70

STATIC LOAD

350 Nm

350 Nm



100 Nm

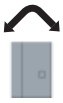
750 N

500 N

DYNAMIC LOAD

40 Nm

40 Nm

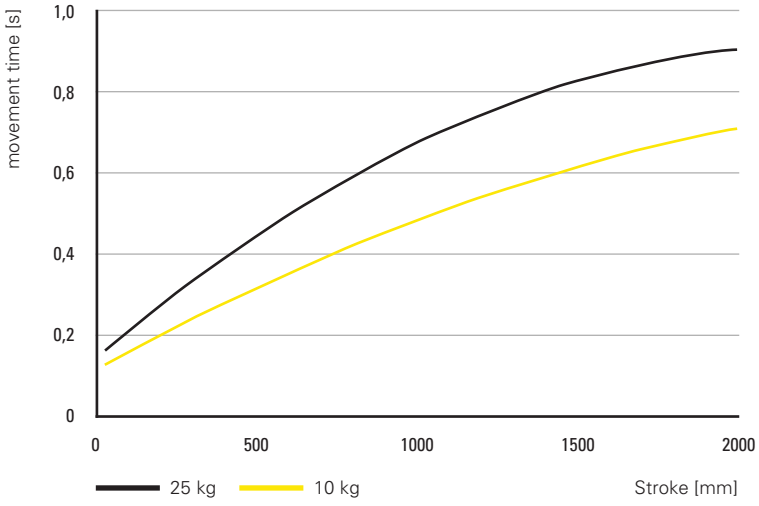


15 Nm

250 N

150 N

TIMING DIAGRAM



HN 200

TECHNICAL DATA

Nom. force (N)	250
Peak force(N)	700
Max. speed (m/s)	4
Max. acceleration (m/s²)	40
Max. load capacity (kg)	50
Max. DC voltage (VDC)	800
Nom. current (Arms)	4.5
Peak current (Arms)	11.2
System accuracy (µm/m)	10 incremental (Sin/Cos 1Vpp)
System accuracy (µm/m)	5 absolute (BISS/C, SSI) up to 1 m

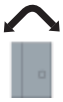
Repeatability (µm)	5 incremental (Sin/Cos 1Vpp)
Repeatability (µm)	2 absolute (BISS/C, SSI) up to 1 m
Available strokes (mm)	up to 4000
Thermal sensor	PTC

Weight	Steel base	Alu base
of rail, 0 stroke (kg)	20.42	9.59
of rail/100 mm (kg)	4.33	2.22
of carriage (kg)	8.10	8.10

STATIC LOAD

500 Nm

500 Nm



200 Nm

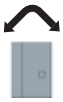
1000 N

750 N

DYNAMIC LOAD

80 Nm

80 Nm

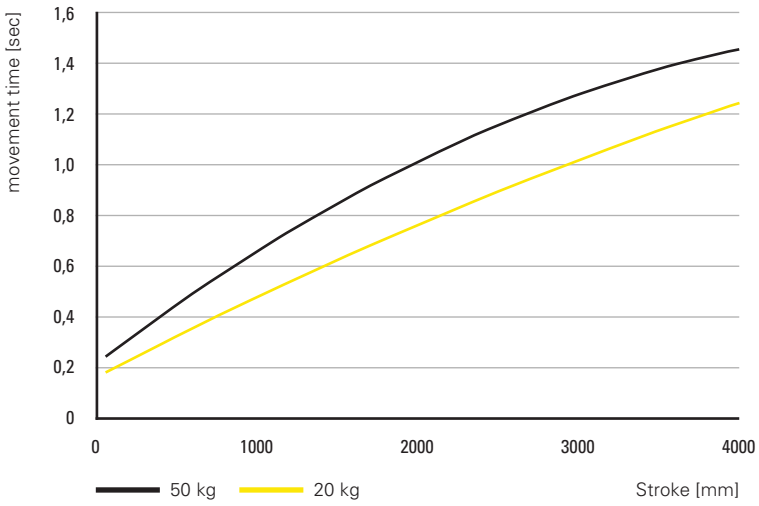


40 Nm

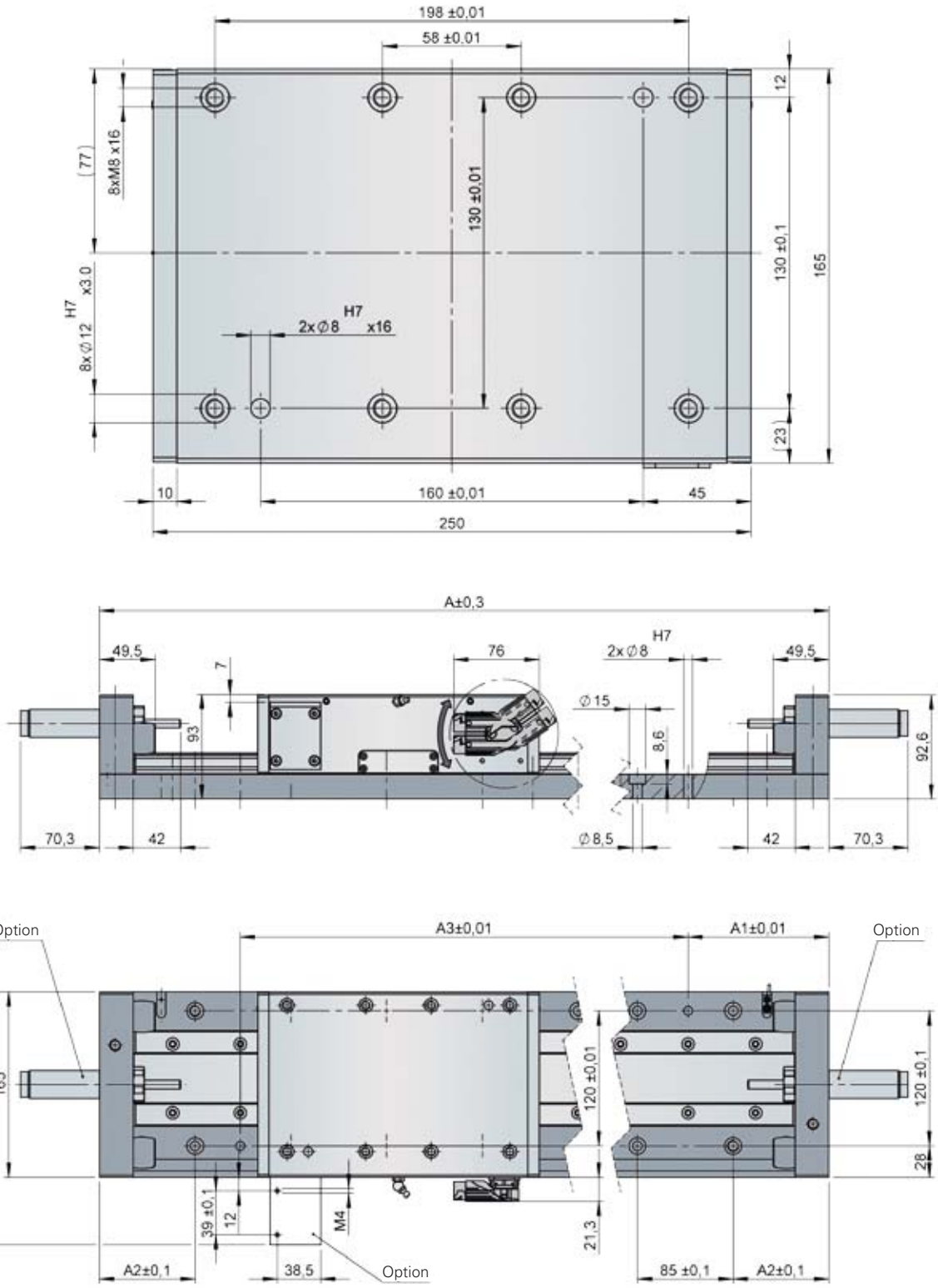
500 N

250 N

TIMING DIAGRAM



DIMENSIONS



Standard strokes	A	A1	A2	A3
500	**850**	**125**	**85**	**600**
1000	1350	125	80	1100
1500	**1850**	**125**	**75**	**1600**
2000	2350	125	70	2100

Intermediate strokes available in 100mm steps on request

HN 400

TECHNICAL DATA

Nom. force (N)	500
Peak force (N)	1400
Max. speed (m/s)	4
Max. acceleration (m/s²)	40
Max. load capacity (kg)	100
Max. DC voltage (VDC)	800
Nom. current (Arms)	7
Peak current (Arms)	18
System accuracy (µm/m)	10 incremental (Sin/Cos 1Vpp)
System accuracy (µm/m)	5 absolute (BISS/C, SSI) up to 1 m

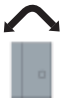
Repeatability (µm)	5 incremental (Sin/Cos 1Vpp)
Repeatability (µm)	2 absolute (BISS/C, SSI) up to 1 m
Available strokes (mm)	up to 4000
Thermal sensor	PTC

Weight	Steel base	Alu base
of rail, 0 stroke (kg)	31.36	15.11
of rail/100 mm (kg)	5.52	2.90
of carriage (kg)	13.40	13.40

STATIC LOAD

1000 Nm

1000 Nm



500 Nm

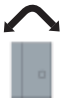
1500 N

1000 N

DYNAMIC LOAD

140 Nm

140 Nm

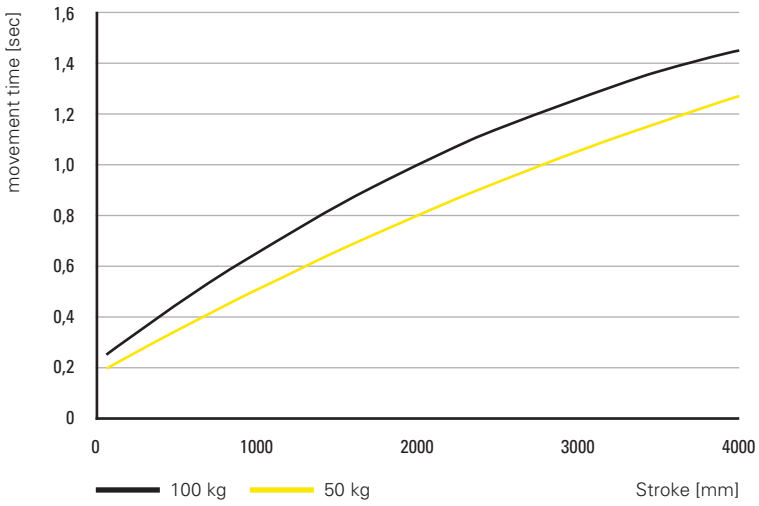


60 Nm

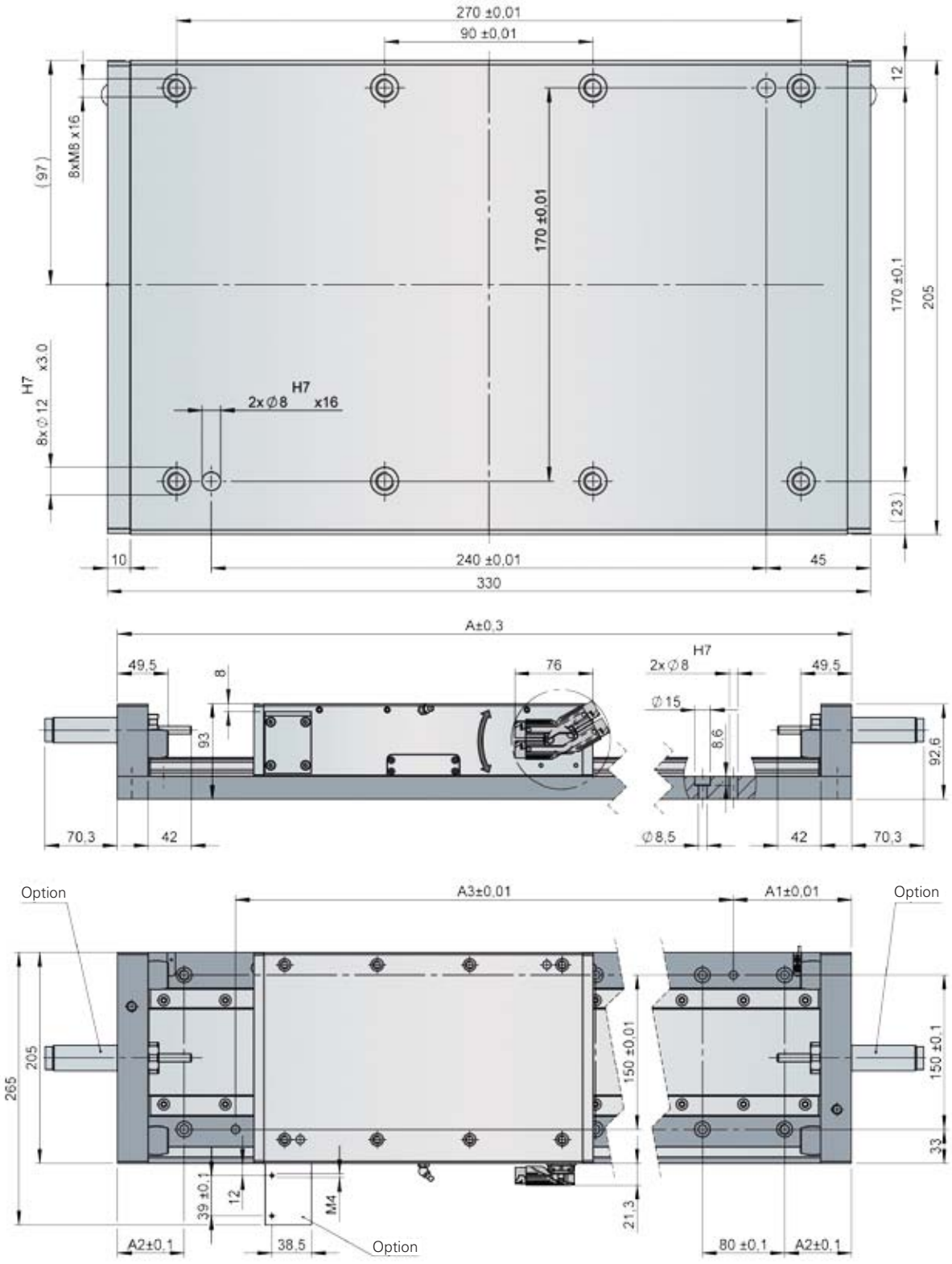
1000 N

500 N

TIMING DIAGRAM



DIMENSIONS



Standard-stroke	A	A1	A2	A3
500	**930**	**115**	**65**	**700**
1000	1430	115	75	1200
1500	**1930**	**115**	**85**	**1700**
2000	2430	115	95	2200

Intermediate strokes available in 100 mm steps on request

W.A.S./W.A.S. 2

WEISS APPLICATION SOFTWARE

With its basic functionality for commissioning individual axes, the W.A.S. (WEISS Application Software) allows fast commissioning of all multi-axis systems. Simply connect your Windows PC via Ethernet to set the control parameters.

- All positions and speeds are freely programmable
- Free language selection
- Easy access to axis parameters
- Diagnostic options, remote maintenance
- Inputs and outputs can be forced (e.g. for start-up)
- Software cams can be specified
- Error history

COMMUNICATION

- Digital I/O (24V inputs and outputs)
- Profibus-DP
- EtherNet/IP (Rockwell)
- PROFINET (W.A.S. 2 only)
- EtherCAT (W.A.S. 2 only)
- More available on request

DESIGN AND CONNECTION

- Plug & play
- Pre-parameterised control package
- Perfectly matched components
- Outstanding flexibility with regard to cable length and interfaces

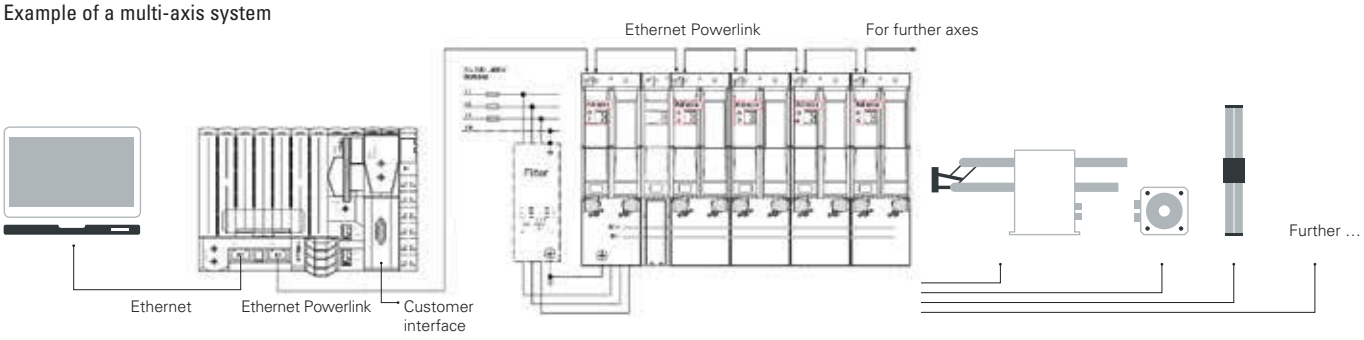
SAFETY AND SERVICE

- Safe Torque Off
- Safe Motion on request
- World-wide service / complete UL approval
- Comprehensive safety and monitoring functions

Electrical data	HN 50	HN 50	HN 100	HN 100	HN 200	HN 400
Main power voltage	**230 V**	**400 V**	**230 V***	**400 V**	**400 V**	**400 V**
24 V power voltage	1.2 A	1.2 A	1.2 A	1.42 A	1.42 A	1,42 A
Connection power	**0.92 kVA**	**1.54 kVA**	**0.92 kVA**	**3.5 kVA**	**3.5 kVA**	**3.5 kVA**
Installation dimensions W x H x D **	60 x 257 x 300 mm	60 x 275 x 300 mm	60 x 257 x 300 mm	70 x 275 x 300 mm	70 x 275 x 300 mm	70 x 275 x 300 mm

* Reduced power ** Installation dimensions of the most compact version, depends on supply voltage and controller manufacturer

Example of a multi-axis system



MACHINE DESIGN HANDLING UNIT

Fax to: +49 (0) 6281 5208-99 or just fill in the form online: www.weiss-international.com

☐ Enquiry ☐ Attachment to order

Dear customer,
Thank you for your interest in our handling units. To ensure optimum design of the system for your specific requirements, please answer the following questions:

Single axis

Number of HN axes: _____

Stroke: _____ mm

Number of HG axes: _____

Stroke: _____ mm

Number of HL axes: _____

Stroke: _____ mm

☐ Without brake (hor.)
☐ Brake (vertical)
☐ 2 brakes (vertical)

Axis system

No. of HP handling units: _____

Y-Stroke: _____ mm
Z-Stroke: _____ mm

No. of linear gantries: _____

Y-Stroke: _____ mm
Z-Stroke: _____ mm

No. of cross-tables: _____

Y-Stroke: _____ mm
Z-Stroke: _____ mm

No. of 3-axis handling units: _____

X-Stroke: _____ mm
Y-Stroke: _____ mm
Z-Stroke: _____ mm

No. of gantry handling units: _____

X-Stroke: _____ mm
Y-Stroke: _____ mm
Z-Stroke: _____ mm

No. of 3-axis handling units: _____

X-Stroke: _____ mm
Y-Stroke: _____ mm
Z-Stroke: _____ mm

Cycle calculation

Payload: ____ (kg)

	Axis				Stroke	Time
	X	Y	U	A*		
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

* A = Rotary axis

Accessories

Measuring system ☐ incremental ☐ absolute (up to 1000 mm stroke)
Lubrication ☐ automatic ☐ manual

Electrical components

☐ **WEISS control package**
Amplifier, W.A.S. software
Cable lengths: ☐ 5 m ☐ 10 m ☐ 15 m ☐ 20 m ☐ 25 m

Interface to customer PLC

☐ Profibus-DP
☐ Digital I/O
☐ PROFINET (W.A.S. 2 only)
☐ EtherCAT (W.A.S. 2 only)
☐ Ethernet/IP (Rockwell)
☐ _____

Accessories for the HP

☐ 1 pneumatic valve ☐ 2 pneumatic valves
☐ Tool connector ☐ with brake (HP 70)

Supply voltage

☐ 1 or 3 x 208 ... 230 V ~ 50/60 Hz
☐ 3 x 400 to 480 V ~ 50/60 Hz (larger installation dimensions)

For technical enquiries

Company: _____
Name: _____
Country: _____

Desired delivery date: _____
Phone: _____ Fax: _____
E-Mail: _____