

DEPRAG

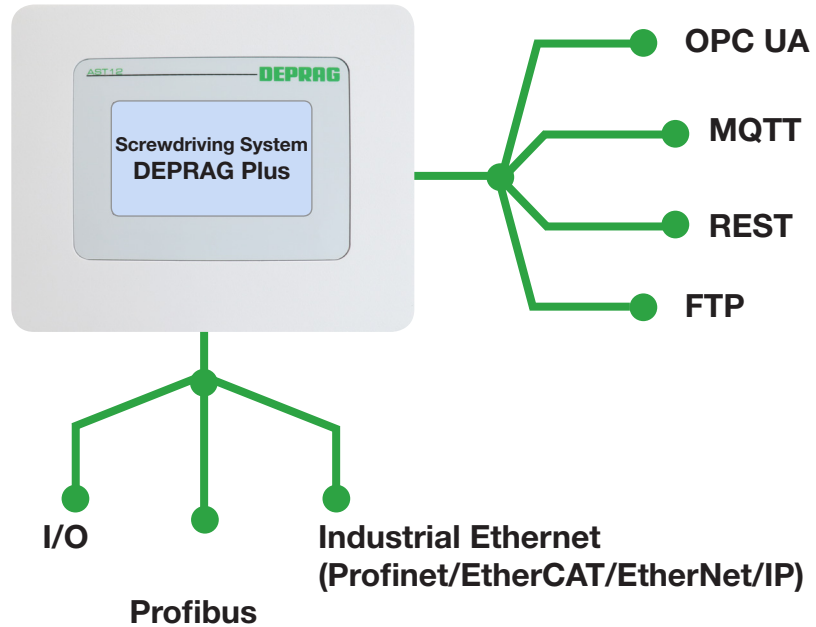
machines unlimited

SCREWDRIVING SYSTEM DEPRAG Plus



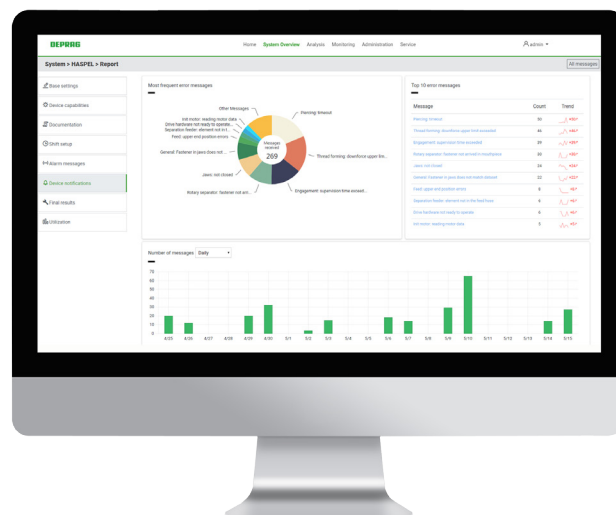
+ CONNECTIVITY

Interfaces



DEPRAG Cockpit

Maintain an overview of your screwdriving systems with the DEPRAG Cockpit. The software enables supervision and analysis of assembly tasks (condition monitoring) and provides analysis tools for continuous process optimization, recognition of trends and predictive maintenance. The DEPRAG Cockpit can even be used to supervise and analyse screwdriving systems from other manufacturers.



DEPRAG Cockpit

As part of the screwdriving system DEPRAG Plus you also receive in the DEPRAG Cockpit Basic **your central user interface** in responsive design

- for parameterisation

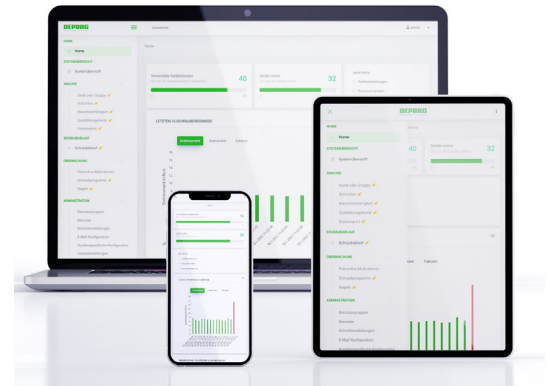
- administration of global settings
- creation and organisation of screwdriving programs
- activation of additional features under DEPRAG Apps
- creation of back-ups and logic functions

- for visualisation

- processing data acquisition for single user

- for documentation

- automatic processing data acquisition of end values and screwdriving curves



Organizer

Organize screwdriving programs > create program groups:

- Simple structuring of screwdriving programs according to component version or product
- Fast change of screwdriving programs for different product versions > saves assembly time
- Easy retrieval of screwdriving programs relating to a specific product

Back-up function

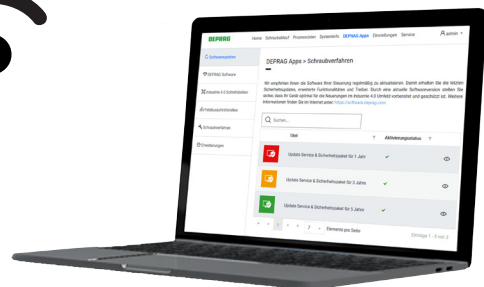
Convenient back-up of system settings, screwdriving parameters, screwdriving results and screwdriving curves

We now have the software packages Professional and Advanced available to augment the software package Cockpit Basic.

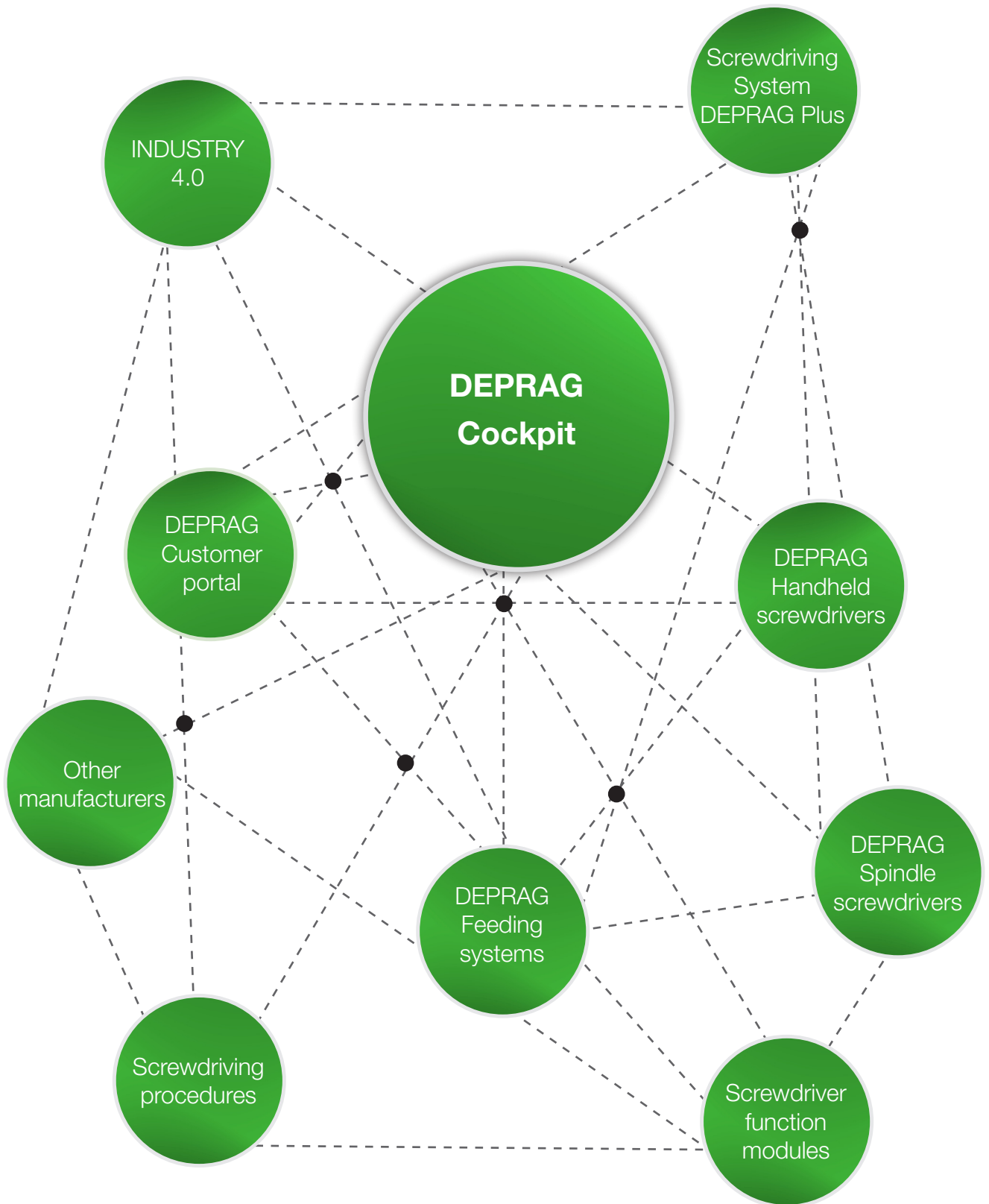
Further information can be found in our catalogue D3900 Software solutions and updates.

WLAN Client

- Wireless connection
- Perfect in restricted areas
- External wireless parameterization
- Secure connection > https

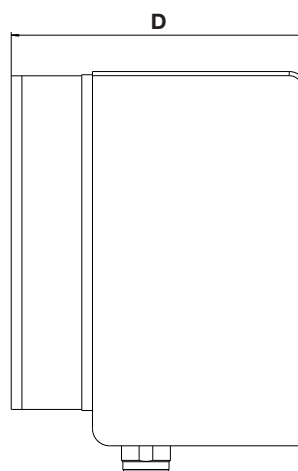
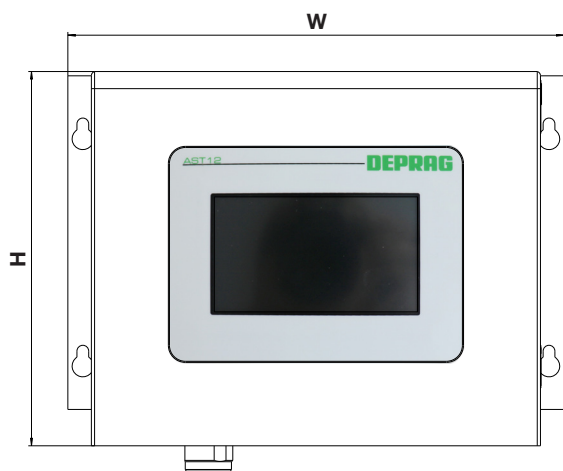


Fit for the future ...
with the DEPRAG Cockpit Platform



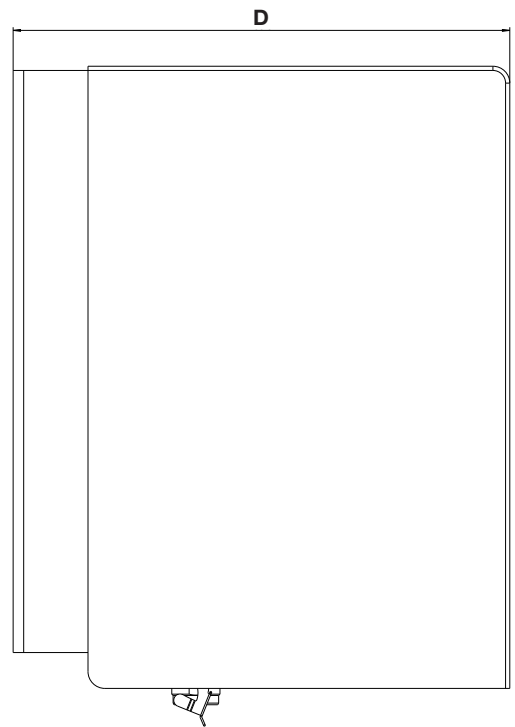
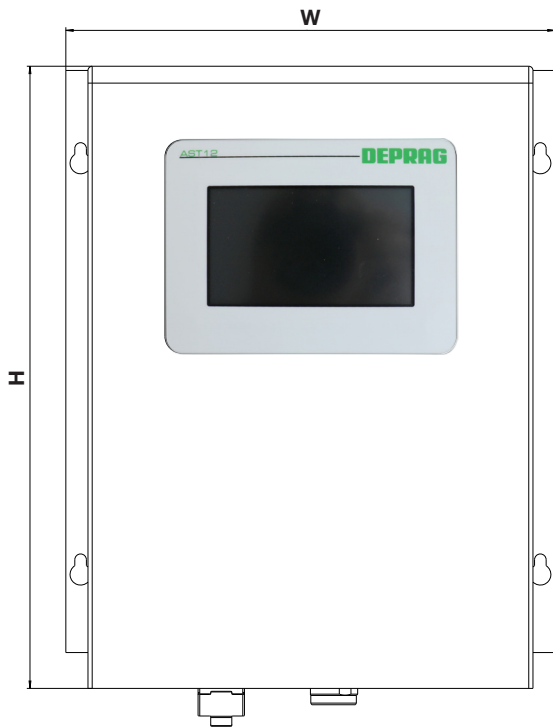
SCREWDRIVING SYSTEM DEPRAG Plus | TECHNICAL DATA SEQUENCE CONTROLLER

Type Part no.	AST12-1 115001A	AST12-1 PB 115001B	AST12-1 IE 115001C
Software DEPRAG Cockpit Basic is already pre-installed			
Max. number of programs saved	1000		
Max. number of screwdriving curves saved (graphic data)	1000		
Max. number of screwdriving results saved	last 7 days complete (> 80.000 in 24h)		
Interfaces	EA = inputs/outputs	EA = inputs/outputs PB = Profibus	EA = inputs/outputs IE = Profinet/EtherCAT/EtherNet/IP
Display	Graphic display with touch feature (capacitive)		
Industry 4.0 interfaces	REST OPC UA MQTT FTP		
Power connection	V / Hz	85-264 / 50-60	
Protection class	IP40		
Dimensions (W x H x D)	mm/in.	232 x 175 x 138 / 9.05 x 6.8 x 5.38	
Weight	kg/lbs	3.8 / 8.36	
Required accessories:			
Power cable EU US UK Brazil China	Part no.	833790 833791 833792 207388 832927	
Optional accessories:			
Base stand	Part no.	120234A	
WLAN Client	Part no.	146766	
Scanner	Part no.	914783A	
Connection cable AST12 to scanner	Part no.	128136A	




SCREWDRIVING SYSTEM DEPRAG Plus | TECHNICAL DATA SEQUENCE CONTROLLER

Type	AST12-2	AST12-2 PB	AST12-2 IE
Part no.	115002A	115002B	115002C
Software DEPRAG Cockpit Basic is already pre-installed			
Max. number of programs saved	1000		
Max. number of screwdriving curves saved (graphic data)	1000		
Max. number of screwdriving results saved	last 7 days complete (> 80.000 in 24h)		
Interfaces	EA = inputs/outputs	EA = inputs/outputs PB = Profibus	EA = inputs/outputs IE = Profinet/EtherCAT/EtherNet/IP
Display	Graphic display with touch feature (capacitive)		
Industry 4.0 interfaces	REST OPC UA MQTT FTP		
Power connection	V / Hz	100-240 / 50-60	
Protection class		IP54	
Dimensions (W x H x D)	mm/in.	232 x 295 x 235.5 / 9.05 x 11.6 x 9.27	
Weight	kg/lbs	9.3 / 20.46	
Required accessories:			
Power cable EU US China Brazil	Part no.	385443A 385443B 385443C 385443D	
Optional accessories:			
Scanner	Part no.	914783A	
Connection cable AST12 to scanner	Part no.	128136A	
Base stand	Part no.	300085A	




SCREWDRIVING SYSTEM DEPRAG Plus | TECHNICAL DATA HANDHELD SCREWDRIVER, straight design

size 22

MINIMAT-EC Handheld screwdriver Straight design, push-to-start		Type Part no.	321EGA22-00005 503031A	321EGA22-00012 503031B	321EGA22-00025 503031C	321EGA22-00050 503031D	321EGA22-00080 503031E
MINIMAT-EC Handheld screwdriver Straight design, lever start		Type Part no.	321EGT22-00005 503032A	321EGT22-00012 503032B	321EGT22-00025 503032C	321EGT22-00050 503032D	321EGT22-00080 503032E
MINIMAT-EC Handheld screwdriver In combination with feeder		Type Part no.	- -	- -	321EGZ22-00025 503033C	321EGZ22-00050 503033D	321EGZ22-00080 503033E
Torque accuracy			2 % standard deviation				
Torque range from to	Nm	0.01 - 0.05	0.03 - 0.12	0.05 - 0.25	0.1 - 0.5	0.16 - 0.8	
	in.lbs	0.09 - 0.44	0.27 - 1.06	0.44 - 2.2	0.89 - 4.43	1.42 - 7.08	
Speed range from to	rpm	120 - 1500	120 - 1500	100 - 2000	80 - 1600	60 - 1200	
Diameter	mm/in.	30.5 / 1.2	30.5 / 1.2	30.5 / 1.2	30.5 / 1.2	30.5 / 1.2	
Length	mm/in.	223 / 8.7	223 / 8.7	223 / 8.7	223 / 8.7	223 / 8.7	
Weight	kg/lbs	0.6 / 1.32	0.6 / 1.32	0.6 / 1.32	0.6 / 1.32	0.6 / 1.32	
Noise level	dB (A)	60	60	60	60	60	
Drive with quick change chuck Connection parts with inserting end		4 mm half moon	4 mm half moon	4 mm half moon	4 mm half moon	4 mm half moon	
Used with sequence controller		AST12-1 AST12-1 PB AST12-1 IE					
Optional accessories:							
Spring sleeve cpl., without suction			4032802A *)				
Spring sleeve cpl., with suction			4032802B *)				
Support ring			389775C *)				
Motor cable extension			see page 19				

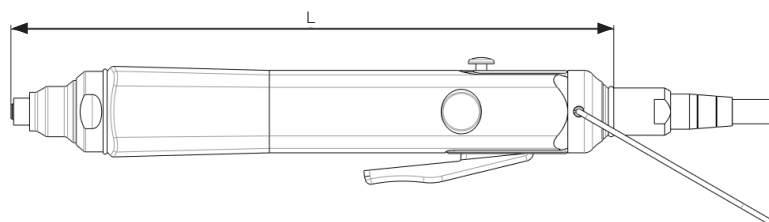
*) not suitable for screwdriver in combination with feeder

The motor cable, 2.5-meters long, is solidly connected to the screwdriver

MINIMAT-EC Handheld screwdriver Straight design, push-to-start		Type Part no.	321EGA22-00120 503031F	321EGA22-00200 503031G	
MINIMAT-EC Handheld screwdriver Straight design, lever start		Type Part no.	321EGT22-00120 503032F	321EGT22-00200 503032G	
MINIMAT-EC Handheld screwdriver In combination with feeder		Type Part no.	321EGZ22-00120 503033F	321EGZ22-00200 503033G	
Torque accuracy			2 % standard deviation		
Torque range from to	Nm/in.lbs	0.18 - 1.2 / 1.6 - 10.6	0.4 - 2 / 3.5 - 17.7		
	rpm	50 - 900	30 - 550		
Diameter	mm/in.	30.5 / 1.2	30.5 / 1.2		
Length	mm/in.	215 / 8.4	215 / 8.4		
Weight	kg/lbs	0.6 / 1.32	0.6 / 1.32		
Noise level	dB (A)	60	60		
Internal hex drive with quick change chuck DIN ISO 1173 Connection parts with inserting end DIN ISO 1173		F6.3 (1/4") E6.3 (1/4")	F6.3 (1/4") E6.3 (1/4")		
Used with sequence controller		AST12-1 AST12-1 PB AST12-1 IE			
Optional accessories:					
Spring sleeve cpl., without suction			364672A *)		
Spring sleeve cpl., with suction			364672C *)		
Support ring			389775C *)		
Motor cable extension			see page 19		


*) not suitable for screwdriver in combination with feeder

The motor cable, 2.5-meters long, is solidly connected to the screwdriver

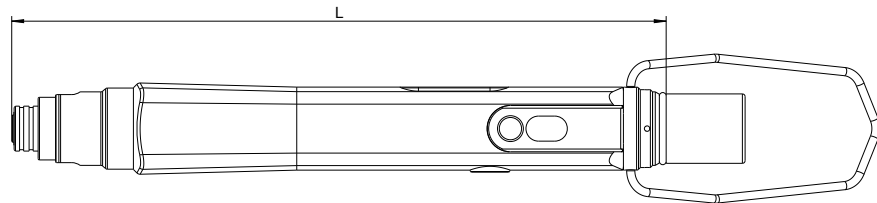


SCREWDRIVING SYSTEM DEPRAG Plus | TECHNICAL DATA HANDHELD SCREWDRIVER, straight design

size 27


						High Performance	
MINIMAT-EC Handheld screwdriver Straight design, push-to-start		Type Part no.	321EGA27-0010 503042A	321EGA27-0018 503042B	321EGA27-0024 503042C	321EGA27-0042 503042D	321EGA27-0042-HP 503042E
MINIMAT-EC Handheld screwdriver Straight design, lever start		Type Part no.	321EGT27-0010 503043A	321EGT27-0018 503043B	321EGT27-0024 503043C	321EGT27-0042 503043D	321EGT27-0042-HP 503043E
MINIMAT-EC Handheld screwdriver In combination with feeder		Type Part no.	- -	321EGZ27-0018 503044B	321EGZ27-0024 503044C	321EGZ27-0042 503044D	321EGZ27-0042-HP 503044E
Torque accuracy		2 % standard deviation					
Torque range from to	Nm/in.lbs	0.15-1/1.33-8.85	0.4- .8/3.54-15.9	0.4-2.4/3.54-21.2	0.7-4.2/6.2-37.2	0.7-4.2/6.2-37.2	
Speed range from to	rpm	50 - 1000	100 - 1000	50 - 700	40 - 400	40 - 750	
Diameter	mm/in.	30.5 / 1.2	30.5 / 1.2	30.5 / 1.2	30.5 / 1.2	30.5 / 1.2	
Length	mm/in.	238 / 9.3	238 / 9.3	238 / 9.3	251 / 9.8	238 / 9.3	
Weight	kg/lbs	0.58 / 1.3	0.58 / 1.3	0.58 / 1.3	0.63 / 1.4	0.58 / 1.3	
Noise level	dB (A)	60	60	60	60	60	
Internal hex drive with quick change chuck DIN ISO 1173		F6.3 (¼")	F6.3 (¼")	F6.3 (¼")	F6.3 (¼")	F6.3 (¼")	
Connection parts with inserting end DIN ISO 1173		E6.3 (¼")	E6.3 (¼")	E6.3 (¼")	E6.3 (¼")	E6.3 (¼")	
Used with sequence controller		AST12-1 AST12-1 PB AST12-1 IE					AST12-2 AST12-2 PB AST12-2 IE
Required accessories: Motor cable straight design Length 2.5m 5m 8m 12m 20m		117352A 117352B 117352C 117352D 117352E					
Motor cable with angle connector Length 2.5m 5m 8m 12m 20m		117353A 117353B 117353C 117353D 117353E					
Optional accessories: Spring sleeve cpl., without suction Spring sleeve cpl., with suction Support ring		364672A *) 364672C *) 389775C *)					

*) not suitable for screwdriver in combination with feeder



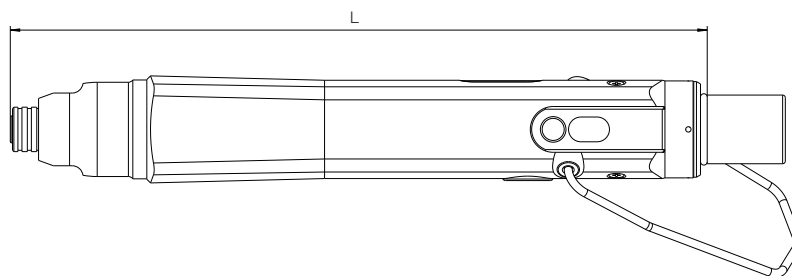
SCREWDRIVING SYSTEM DEPRAG Plus | TECHNICAL DATA HANDHELD SCREWDRIVER, straight design

size 36

MINIMAT-EC Handheld screwdriver Straight design, push-to-start		Type Part no.	321EGA36-0040 503061A	321EGA36-0060 503061B	321EGA36-0090 503061C	321EGA36-0120 503061D	321EGA36-0180 503061E	321EGA36-0250 503061F
MINIMAT-EC Handheld screwdriver Straight design, lever start		Type Part no.	321EGT36-0040 503062A	321EGT36-0060 503062B	321EGT36-0090 503062C	321EGT36-0120 503062D	321EGT36-0180 503062E	321EGT36-0250 503062F
MINIMAT-EC Handheld screwdriver In combination with feeder		Type Part no.	321EGZ36-0040 503069A	321EGZ36-0060 503069B	321EGZ36-0090 503069C	321EGZ36-0120 503069D	321EGZ36-0180 503069E	- -

Torque accuracy		2 % standard deviation					
Torque range from to	Nm	0.8 - 4	1 - 6	2 - 9	2 - 12	3 - 18	5 - 25
	in.lbs	7.08 - 35.4	8.85 - 53.1	17.7 - 79.65	17.7 - 106.2	26.55 - 159.3	44.25 - 221.25
Speed range from to	rpm	100 - 1000	70 - 740	50 - 540	35 - 380	25 - 280	20 - 220
Diameter	mm/in.	36.5/1.42	36.5/1.42	36.5/1.42	36.5/1.42	36.5/1.42	36.5/1.42
Length	mm/in.	259/10.1	259/10.1	259/10.1	259/10.1	259/10.1	259/10.1
Weight	kg/lbs	0.84/1.85	0.84/1.85	0.84/1.85	0.84/1.85	0.89/1.96	0.89/1.96
Noise level	dB (A)	62	62	62	62	62	62
Internal hex drive with quick change chuck DIN ISO 1173		F6.3 (¼")	F6.3 (¼")	F6.3 (¼")	F6.3 (¼")	F6.3 (¼")	F6.3 (¼")
Connection parts with inserting end DIN ISO 1173		E6.3 (¼")	E6.3 (¼")	E6.3 (¼")	E6.3 (¼")	E6.3 (¼")	E6.3 (¼")
Used with sequence controller	AST12-2 AST12-2 PB AST12-2 IE						
Required accessories:							
Motor cable straight design Length 2.5m 5m 8m 12m 20m	117352A 117352B 117352C 117352D 117352E						
Motor cable with angle connector Length 2.5m 5m 8m 12m 20m	117353A 117353B 117353C 117353D 117353E						
Optional accessories:							
Spring sleeve cpl., without suction	364672A *)						
Spring sleeve cpl., with suction	364672C *)						
Support ring	389775C *)						

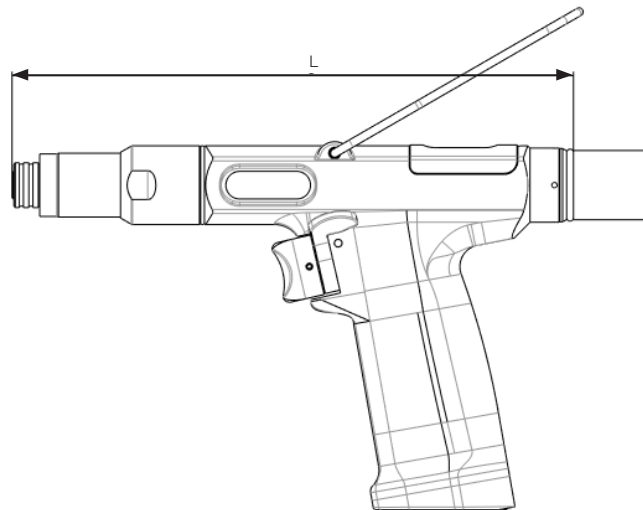
*) not suitable for screwdriver in combination with feeder



SCREWDRIVING SYSTEM DEPRAG Plus | TECHNICAL DATA HANDHELD SCREWDRIVER, pistol grip


size 27

MINIMAT®-EC Handheld screwdriver Pistol grip, trigger-start		Type Part no.	321EPT27-0010 503045A	321EPT27-0024 503045B	321EPT27-0042 503045C	High Performance 321EPT27-0042-HP 503045D	High Performance 321EPT27-0080-HP 503045E
Torque accuracy		2 % standard deviation					
Torque range from to	Nm in.lbs	0.15 - 1 1.33 - 8.85	0.4 - 2.4 3.5 - 21.2	0.7 - 4.2 6.2 - 37.2	0.7 - 4.2 6.2 - 37.2	1.5 - 8 13.28 - 70.8	
Speed range from to	rpm	50 - 1000	50 - 700	40 - 400	40 - 750	30 - 450	
Diameter	mm/in.	29 / 1.13	29 / 1.13	29 / 1.13	29 / 1.13	29 / 1.13	
Length	mm/in.	207 / 8.1	207 / 8.1	220 / 8.6	207 / 8.1	220 / 8.6	
Weight	kg/lbs	0.54 / 1.3	0.54 / 1.3	0.58 / 1.3	0.64 / 1.41	0.73 / 1.61	
Noise level	dB (A)	60	60	60	60	60	
Internal hex drive with quick change chuck DIN ISO 1173		F6.3 (¼")	F6.3 (¼")	F6.3 (¼")	F6.3 (¼")	F6.3 (¼")	
Connection parts with inserting end DIN ISO 1173		E6.3 (¼")	E6.3 (¼")	E6.3 (¼")	E6.3 (¼")	E6.3 (¼")	
Used with sequence controller		AST12-1 AST12-1 PB AST12-1 IE			AST12-2 AST12-2 PB AST12-2 IE		
Required accessories:							
Motor cable straight design Length 2.5m 5m 8m 12m 20m		117352A 117352B 117352C 117352D 117352E					
Motor cable with angle connector Length 2.5m 5m 8m 12m 20m		117353A 117353B 117353C 117353D 117353E					
Optional accessories:							
Spring sleeve cpl., without suction		364672A					
Spring sleeve cpl., with suction		364672C					



SCREWDRIVING SYSTEM DEPRAG Plus | TECHNICAL DATA HANDHELD SCREWDRIVER, pistol grip

size 36

MINIMAT®-EC Handheld screwdriver Pistol grip, trigger-start		Type Part no.	321EPT36-0040 503063A	321EPT36-0060 503063B	321EPT36-0120 503063C	321EPT36-0180 503063D
Torque accuracy		2 % standard deviation				
Torque range from to	Nm in.lbs	0.8 - 4 7.08 - 35.4	1 - 6 8.85 - 53.1	2 - 12 17.7 - 106.2	3 - 18 26.55 - 159.3	
Speed range from to	rpm	100 - 1000	70 - 740	35 - 380	25 - 280	
Diameter	mm/in.	41 / 1.6	41 / 1.6	41 / 1.6	41 / 1.6	
Length	mm/in.	235 / 9.2	235 / 9.2	235 / 9.2	235 / 9.2	
Weight	kg/lbs	1 / 2.2	1 / 2.2	1 / 2.2	1.05 / 2.31	
Noise level	dB (A)	62	62	62	62	
Internal hex drive with quick change chuck DIN ISO 1173		F6.3 (¼")	F6.3 (¼")	F6.3 (¼")	F6.3 (¼")	
Connection parts with inserting end DIN ISO 1173		E6.3 (¼")	E6.3 (¼")	E6.3 (¼")	E6.3 (¼")	
Used with sequence controller	AST12-2 AST12-2 PB AST12-2 IE					
Required accessories:						
Motor cable straight design Length 2.5m 5m 8m 12m 20m	117352A 117352B 117352C 117352D 117352E					
Motor cable with angle connector Length 2.5m 5m 8m 12m 20m	117353A 117353B 117353C 117353D 117353E					
Optional accessories:						
Spring sleeve cpl., without suction	364672A					
Spring sleeve cpl., with suction	364672C					

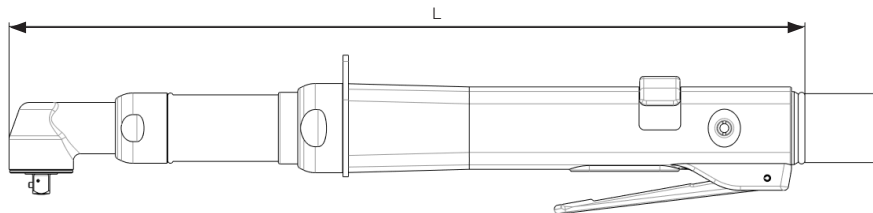


SCREWDRIVING SYSTEM DEPRAG Plus | TECHNICAL DATA HANDHELD SCREWDRIVER, angle head

size 27






MINIMAT-EC Handheld screwdriver Angle head, lever start External square drive DIN 3121 Connection parts with inserting end DIN 3121 Internal square drive		Type Part no.	321EWT27-0022-E6 503046A E6.3 (1/4") G6.3 (1/4")	321EWT27-0035-E6 503046B E6.3 (1/4") G6.3 (1/4")	321EWT27-0060-E6 503046C E6.3 (1/4") G6.3 (1/4")	
MINIMAT-EC Handheld screwdriver Angle head, lever start External square drive DIN 3121 Connection parts with inserting end DIN 3121 Internal square drive		Type Part no.	321EWT27-0022-E10 503047A E10 (3/8") G10 (3/8")	321EWT27-0035-E10 503047B E10 (3/8") G10 (3/8")	321EWT27-0060-E10 503047C E10 (3/8") G10 (3/8")	
MINIMAT-EC Handheld screwdriver Angle head, lever start Internal hex drive DIN ISO 1173 with quick change chuck Connection parts with inserting end DIN ISO 1173 External hex drive		Type Part no.	321EWT27-0022-F6 503048A F6.3 (1/4") E6.3 (1/4")	321EWT27-0035-F6 503048B F6.3 (1/4") E6.3 (1/4")	321EWT27-0060-F6 503048C F6.3 (1/4") E6.3 (1/4")	High Performance 321EWT27-0060-HP-F6 503048D F6.3 (1/4") E6.3 (1/4")
MINIMAT-EC Handheld screwdriver Angle head, lever start Internal hex drive DIN ISO 1173 for bits Connection parts with inserting end DIN ISO 1173 External hex drive		Type Part no.	321EWT27-0022-D6 503049A D6.3 (1/4") C6.3 (1/4")	321EWT27-0035-D6 503049B D6.3 (1/4") C6.3 (1/4")	321EWT27-0060-D6 503049C D6.3 (1/4") C6.3 (1/4")	
MINIMAT-EC Handheld screwdriver Angle head, lever start Internal hex drive DIN ISO 1173 for bits with magnet Connection parts with inserting end DIN ISO 1173 External hex drive		Type Part no.	321EWT27-0022-DM6 503050A D6.3 (1/4") C6.3 (1/4")	321EWT27-0035-DM6 503050B D6.3 (1/4") C6.3 (1/4")	321EWT27-0060-DM6 503050C D6.3 (1/4") C6.3 (1/4")	

Torque accuracy		2 % standard deviation			
Torque range from to	Nm/in.lbs	0.4 - 2.2 / 3.5 - 19.5	0.7 - 3.5 / 6.2 - 31	1 - 6 / 8.85 - 53.1	1 - 6 / 8.85 - 53.1
Speed range from to	rpm	80 - 800	50 - 500	30 - 300	50 - 550
Diameter	mm/in.	30.5 / 1.2	30.5 / 1.2	30.5 / 1.2	30.5 / 1.2
Length	mm/in.	296 / 11.5	296 / 11.5	309 / 12.05	296 / 11.5
Weight	kg/lbs	0.75 / 1.65	0.75 / 1.65	0.8 / 1.76	0.8 / 1.76
Noise level	dB (A)	60	60	60	60
Used with sequence controller		AST12-1 AST12-1 PB AST12-1 IE			AST12-2 AST12-2 PB AST12-2 IE
Required accessories: Motor cable straight design Length 2.5m 5m 8m 12m 20m		117352A 117352B 117352C 117352D 117352E			
Motor cable with angle connector Length 2.5m 5m 8m 12m 20m		117353A 117353B 117353C 117353D 117353E			



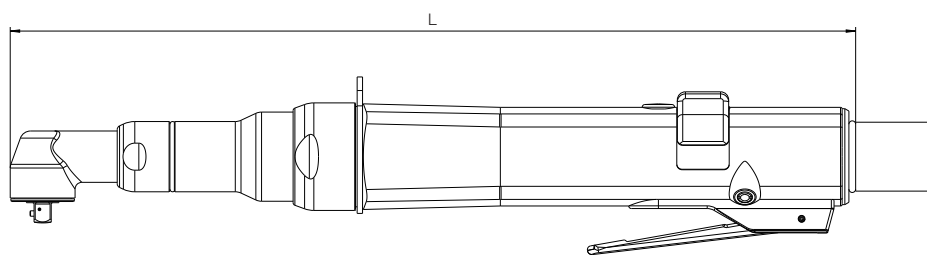
SCREWDRIVING SYSTEM DEPRAG Plus | TECHNICAL DATA HANDHELD SCREWDRIVER, angle head

size 36

MINIMAT-EC Handheld screwdriver Angle head, lever start External square drive DIN 3121 Connection parts with inserting end DIN 3121 Internal square drive		Type Part no.	321EWT36-0060-E6 503064A E6.3 (1/4") G6.3 (1/4")	321EWT36-0120-E6 503064B E6.3 (1/4") G6.3 (1/4")	- - - -	- - - -
MINIMAT-EC Handheld screwdriver Angle head, lever start External square drive DIN 3121 Connection parts with inserting end DIN 3121 Internal square drive		Type Part no.	321EWT36-0060-E10 503065A E10 (3/8") G10 (3/8")	321EWT36-0120-E10 503065B E10 (3/8") G10 (3/8")	321EWT36-0180-E10 503065C E10 (3/8") G10 (3/8")	321EWT36-0250-E10 503065D E10 (3/8") G10 (3/8")
MINIMAT-EC Handheld screwdriver Angle head, lever start Internal hex drive DIN ISO 1173 with quick change chuck Connection parts with inserting end DIN ISO 1173 External hex drive		Type Part no.	321EWT36-0060-F6 503066A F6.3 (1/4") E6.3 (1/4")	321EWT36-0120-F6 503066B F6.3 (1/4") E6.3 (1/4")	- - - -	- - - -
MINIMAT-EC Handheld screwdriver Angle head, lever start Internal hex drive DIN ISO 1173 for bits Connection parts with inserting end DIN ISO 1173 External hex drive		Type Part no.	321EWT36-0060-D6 503067A D6.3 (1/4") C6.3 (1/4")	321EWT36-0120-D6 503067B D6.3 (1/4") C6.3 (1/4")	- - - -	- - - -
MINIMAT-EC Handheld screwdriver Angle head, lever start Internal hex drive DIN ISO 1173 for bits with magnet Connection parts with inserting end DIN ISO 1173 External hex drive		Type Part no.	321EWT36-0060-DM6 503068A D6.3 (1/4") C6.3 (1/4")	321EWT36-0120-DM6 503068B D6.3 (1/4") C6.3 (1/4")	- - - -	- - - -

Torque accuracy		2 % standard deviation			
Torque range from to	Nm/in.lbs	1 - 6 / 8.85 - 53.1	2 - 12 / 17.7 - 106.2	3 - 18 / 26.55 - 159.3	5 - 25 / 44.25 - 221.25
Speed range from to	rpm	75 - 750	40 - 400	20 - 240	15 - 180
Diameter	mm/in.	40 / 1.56	40 / 1.56	40 / 1.56	40 / 1.56
Length	mm/in.	313 / 1.2	313 / 12.2	321 / 12.52	321 / 12.52
Weight	kg/lbs	1.1 / 2.42	1.1 / 2.42	1.2 / 2.64	1.2 / 2.64
Noise level	dB (A)	62	62	62	62

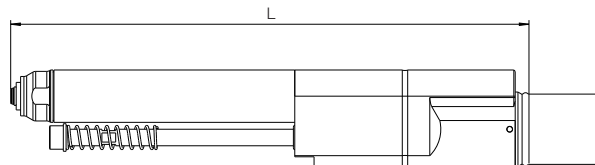
Used with sequence controller	AST12-2 AST12-2 PB AST12-2 IE
Required accessories: Motor cable straight design Length 2.5m 5m 8m 12m 20m	117352A 117352B 117352C 117352D 117352E
Motor cable with angle connector Length 2.5m 5m 8m 12m 20m	117353A 117353B 117353C 117353D 117353E



SCREWDRIVING SYSTEM DEPRAG Plus | TECHNICAL DATA SPINDLE SCREWDRIVER, straight design

size19

MICROMAT-EC Spindle screwdriver Straight design	Type Part no.	321E19-0002 503020A	321E19-0005 503020B	321E19-0008 503020C
Torque accuracy		2 % standard deviation		
Torque range from to	Nm/in.lbs	0.03 - 0.2 / 0.26 - 1.77	0.08 - 0.5 / 0.7 - 4.4	0.15 - 0.8 / 1.33 - 7.1
Speed range from to	rpm	150 - 1500	60 - 1200	100 - 1000
Diameter	mm/in.	19 / 0.74	19 / 0.74	19 / 0.74
Length	mm/in.	188 / 7.33	194 / 7.57	194 / 7.57
Weight	kg/lbs	0.25 / 0.55	0.25 / 0.55	0.25 / 0.55
Noise level	dB (A)	60	60	60
Drive with quick change chuck		4 mm half moon	4 mm half moon	4 mm half moon
Connection parts with inserting end		4 mm half moon	4 mm half moon	4 mm half moon
Used with sequence controller		AST12-1 AST12-1 PB AST12-1 IE		
Required accessories:				
Motor cable straight design Length 2.5m 5m 8m 12m 20m		117352A 117352B 117352C 117352D 117352E		
Motor cable with angle connector Length 2.5m 5m 8m 12m 20m		117353A 117353B 117353C 117353D 117353E		
Optional accessories:				
Depth control digital		909052C		
Depth control analog 10 mm		908838C plus amplifier 813712		



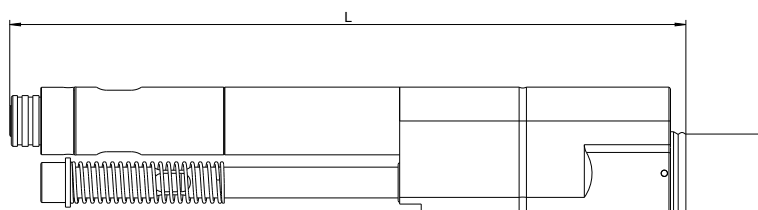
Further information on installation as well as CAD models can be found in the download area on our website www.deprag.com.

SCREWDRIVING SYSTEM DEPRAG Plus | TECHNICAL DATA SPINDLE SCREWDRIVER, straight design

size 22 and 27

MINIMAT-EC Spindle screwdriver Straight design	Type Part no.	321E22-00120 503030A	321E22-00200 503030B	321E27-0010 503040A	321E27-0018 503040B	321E27-0024 503040C	321E27-0042 503040D
Torque accuracy		2 % standard deviation					
Torque range from to	Nm/in.lbs	0.18-1.2/1.6-10.6	0.4-2/3.54-17.7	0.15-1/1.33-8.85	0.4-1.8/3.54-15.9	0.4-2.4/3.54-21.2	0.7-4.2/6.2-37.2
Speed range from to	rpm	50 - 900	30 - 550	50 - 1000	100 - 1000	50 - 700	40 - 400
Diameter	mm/in.	22/0.86	22/0.86	27/1.05	27/1.05	27/1.05	27/1.05
Length	mm/in.	220/8.6	220/8.6	237/9.2	237/9.2	237/9.2	249/9.66
Weight	kg/lbs	0.55/1.21	0.55/1.21	0.66/1.45	0.75/1.65	0.75/1.65	0.75/1.65
Noise level	dB (A)	60	60	60	60	60	60
Internal hex drive with quick change chuck DIN ISO 1173		F6.3 (¼")	F6.3 (¼")	F6.3 (¼")	F6.3 (¼")	F6.3 (¼")	F6.3 (¼")
Connection parts with inserting end DIN ISO 1173		E6.3 (¼")	E6.3 (¼")	E6.3 (¼")	E6.3 (¼")	E6.3 (¼")	E6.3 (¼")
Used with sequence controller		AST12-1 AST12-1 PB AST12-1 IE					
Required accessories:							
Motor cable straight design Length 2.5m 5m 8m 12m 20m		117352A 117352B 117352C 117352D 117352E					
Motor cable with angle connector Length 2.5m 5m 8m 12m 20m		117353A 117353B 117353C 117353D 117353E					
Optional accessories:							
Depth control digital		909052E		909052D			
Depth control analog 10 mm		908838I plus amplifier 813712		908838E plus amplifier 813712			

MINIMAT-EC Spindle screwdriver Straight design	Type Part no.	High Performance 321E27-0042-HP 503040E	High Performance 321E27-0080-HP 503040F
Torque accuracy		2 % standard deviation	
Torque range from to	Nm/in.lbs	0.7 - 4.2 / 6.2 - 37.2	1.5 - 8 / 13.28 - 70.8
Speed range from to	rpm	40 - 750	30 - 450
Diameter	mm/in.	27 / 1.05	27 / 1.05
Length	mm/in.	237 / 9.24	251 / 9.79
Weight	kg/lbs	0.75 / 1.65	0.8 / 1.76
Noise level	dB (A)	60	60
Internal hex drive with quick change chuck DIN ISO 1173		F6.3 (¼")	F6.3 (¼")
Connection parts with inserting end DIN ISO 1173		E6.3 (¼")	E6.3 (¼")
Used with sequence controller		AST12-2 AST12-2 PB AST12-2 IE	
Required accessories:			
Motor cable straight design Length 2.5m 5m 8m 12m 20m		117352A 117352B 117352C 117352D 117352E	
Motor cable with angle connector Length 2.5m 5m 8m 12m 20m		117353A 117353B 117353C 117353D 117353E	
Optional accessories:			
Depth control digital		909052D	
Depth control analog 10 mm		908838E plus amplifier 813712	

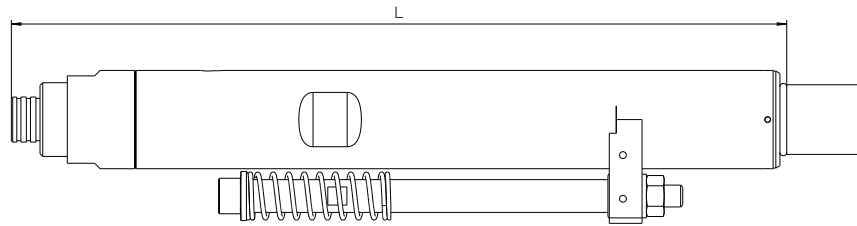


Further information on installation as well as CAD models can be found in the download area on our website www.deprag.com.

SCREWDRIVING SYSTEM DEPRAG Plus | TECHNICAL DATA SPINDLE SCREWDRIVER, straight design

size 36

MINIMAT-EC Spindle screwdriver Straight design	Type Part no.	321E36-0040 503060A	321E36-0060 503060B	321E36-0090 503060C	321E36-0120 503060D	321E36-0180 503060E	321E36-0250 503060F
Torque accuracy		2 % standard deviation					
Torque range from to	Nm in.lbs	0.8 - 4 7.08 - 35.4	1 - 6 8.85 - 53.1	2 - 9 17.7 - 79.65	2 - 12 17.7 - 106.2	3 - 18 26.55 - 159.3	5 - 25 44.25 - 221.25
Speed range from to	rpm	100 - 1000	70 - 740	50 - 540	35 - 380	25 - 280	20 - 220
Diameter	mm/in.	36/1.4	36/1.4	36/1.4	36/1.4	36/1.4	36/1.4
Length	mm/in.	284/11.08	284/11.08	284/11.08	284/11.08	284/11.08	284/11.08
Weight	kg/lbs	1.4/3.1	1.4/3.1	1.4/3.1	1.4/3.1	1.4/3.1	1.4/3.1
Noise level	dB (A)	60	60	60	60	60	60
Internal hex drive with quick change chuck DIN ISO 1173		F6.3 (1/4")	F6.3 (1/4")	F6.3 (1/4")	F6.3 (1/4")	F6.3 (1/4")	F6.3 (1/4")
Connection parts with inserting end DIN ISO 1173		E6.3 (1/4")	E6.3 (1/4")	E6.3 (1/4")	E6.3 (1/4")	E6.3 (1/4")	E6.3 (1/4")
Used with sequence controller		AST12-2 AST12-2 PB AST12-2 IE					
Required accessories: Motor cable straight design Length 2.5m 5m 8m 12m 20m		117352A 117352B 117352C 117352D 117352E					
Motor cable with angle connector Length 2.5m 5m 8m 12m 20m		117353A 117353B 117353C 117353D 117353E					
Optional accessories: Depth control digital Depth control analog 10 mm		9411771 908838D plus amplifier 813712					



Further information on installation as well as CAD models can be found in the download area on our website www.deprag.com.

SCREWDRIVING SYSTEM DEPRAG Plus | OPTIONALLY AVAILABLE SOFTWARE SOLUTIONS

DEPRAG Cockpit Basic 1 device license	Part no.	145806 (included in delivery of the screwdriving system DEPRAG Plus)
DEPRAG Cockpit Advanced1 1 device license	Part no.	145795
DEPRAG Cockpit Advanced5 5 device licenses	Part no.	145796
DEPRAG Cockpit Advanced10 10 device licenses	Part no.	145797
DEPRAG Cockpit Advanced20 20 device licenses	Part no.	145798
DEPRAG Cockpit Advanced50 50 device licenses	Part no.	145799
DEPRAG Cockpit Professional1 1 device license	Part no.	145440
DEPRAG Cockpit Professional5 5 device licenses	Part no.	142967
DEPRAG Cockpit Professional10 10 device licenses	Part no.	142968
DEPRAG Cockpit Professional20 20 device licenses	Part no.	142978
DEPRAG Cockpit Professional50 50 device licenses	Part no.	142979
Demo version DEPRAG Cockpit Professional Activation code	Part no.	164785
Cockpit Programming Samples	Part no.	166217
DEPRAG Graph Viewer Activation code	Part no.	128901
DEPRAG Data eXchange Activation code	Part no.	132680
TIA Link Activation code	Part no.	135839
TwinCAT Link Activation code	Part no.	140996
Clamp Force Control (seating point detection) Activation code	Part no.	142961
Friction dependent torque screw assembly Activation code	Part no.	142959
Software update one-time Activation code	Part no.	142966
Software update annual license Activation code	Part no.	142965
Visualisation of the process Activation code	Part no.	144248
DEPRAG Operator Guidance Activation code	Part no.	146536
Safety & Change tracking Activation code	Part no.	144251
Industry 4.0 interfaces Activation code	Part no.	142962
DEPRAG Universal Robots Link Activation code	Part no.	164982
Process Control Activation code	Part no.	179966
Process Control (duration 30 days) Activation code	Part no.	179972

Further details on the software products can be found in our catalog D3900E.

SCREWDRIVING SYSTEM DEPRAG Plus | FURTHER OPTIONALLY AVAILABLE ACCESSORIES

Motor cable extension	suitable for series 321EGx22-..
Length 2.5 m	127859A
Length 5.5 m	127859B
Length 9.5 m	127859C

The total length including the motor cable extension must not exceed 12 meters.

Toolbox	Type	TB 7
	Part no.	398097B
Technical data:		
Tool holders		7
Tool size		up to Ø 24 mm/0.9 in. (AF 19)
Voltage		DC 24 Volt
Amperage		100 mA
Input/output interface		SUB-D 15-pin connector
Start signal		4-pin connector
Dimensions (WxHxD)		225x50x120 mm / 8.8x1.9x4.7 in.
Weight		1.2 kg / 2.6 lbs.
Required: connection cable AST12-TB 7		385451C

Suitable screwdriver adaptors can be found in product catalogue D3345E.

The logo for DEPRAG, consisting of the word "DEPRAG" in a bold, green, sans-serif font.

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www.deprag.com
info@deprag.de

CERTIFIED AS PER DIN EN ISO 9001

Screwdriver Spindles electric



MINIMAT-EC-Servo Screwdriver Spindles

Maximum Flexibility and Process Control

Straight Spindle Form - Torque range from 0.2 Nm - 500 Nm

Angle Head Design - Torque range from 5 Nm - 70 Nm

- powerful
- flexible
- high precision
- full documentation capability

MINIMAT-EC-Servo screwdriver spindles in connection with the sequence controller AST40 allow free programming of the screw tightening process and offer maximum flexibility, accuracy and process control. Torque, speed, angle, drive direction and sequence delay times can be customized to the individual screwdriving task within the power range of the selected screwdriver spindle.

The integrated torque and angle sensor module employs non contact signal transmission techniques and enables precise control of the screwdriving process as well as the documentation of the screwdriving results and process parameters and also guarantees the highest shut-off accuracy.

The EC-Servo screwdriver is suitable for applications with the most demanding quality requirements – where direct measurement and control methods are required.



ADVANTAGES

- High power density
- High shut-off accuracy
- Flexible
- Noise immunity
- Comprehensive documentation options
- System diagnostics
- Extensive integration and control options

The application of a brushless servomotor with high power density is essential to the maintenance free operation of the EC drive. It also delivers excellent dynamics and high peak torque in a compact form – ideally suited to the screw tightening process.

Torque accuracies of < 1% standard deviation and thus Cmk values of ≥ 1.67 with a tolerance of $\pm 5\%$ can be reached * with MINIMAT-EC-Servo stationary screwdrivers. Statistically speaking, the error rate is less than 0.6 per one million screw assemblies.

*) under suitable process conditions

The screwdriving system consists of the **EC screwdriver spindle**, **AST40 screwdriver sequence controller** and a single **connection cable** that has been tested for extreme loading conditions. The single connection cable services the power and signal transmission functions between the screwdriver and controller using digital technology as most suitable for longer cable lengths.

DEPRAG SCREWDRIVING CONTROLLER AST40/ASTi40

- Torque range: 0.2 - 500 Nm
- For MINIMAT-EC-SERVO screwdriver spindles
- Number of multi-level screw sequences: 120
- Documentation options: internal storage, output via RS232 or Ethernet (Datalogger), printer interface
- PLC interface: input/output, Profibus, Profinet, EtherCAT, EthernetIP

The sequence controller AST40/ASTi40 is a controller with integrated power supply. Within the performance range of each spindle torque, speed, waiting period and rotational direction can be individually customized to the screw assembly task.

Extensive programming, control and documentation interfaces offer maximum flexibility for integration into existing process environments. Several communication options include input/output, various field bus interface options and an integrated web server for online screwdriver program configuration, data backup and screwdriver graph analysis via Ethernet.

All common screw assembly sequence programs are embedded in the AST40 screwdriver controller in the form of commands with parameters. Commissioning of an application can be completed in just a few steps. All required programming and setup functions are made available through the web interface so that no additional software is required, only a PC with a browser.

When choosing the option ASTi40 for integration into the switch cabinet, the software panel DAST is required for operation and visualisation of the controller. In that case the system controller additionally provides the range of functions available on the AST40 display.



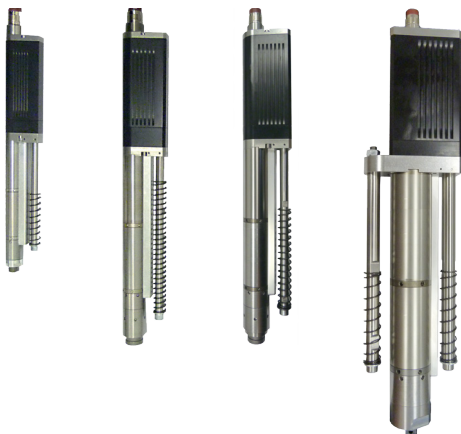
AST40 with 7" touch display



ASTi40 for installation into a switch cabinet

EC-SERVO SCREWDRIVER SPINDLE

4 available sizes in straight spindle design



311E27-xx 311E36-xx 311E42-xx 311E63-xx

NEW

size 36 now available in angle head design



For assembly in confined spaces.

SYSTEM COMPONENTS

MINIMAT-EC-Servo, straight spindle form		size 27 with quick change chuck			
Screwdriver	Type Part no.	311E27-0010 413400A	311E27-0020 413400B	311E27-0050 413400C	311E27-0120 413400E
Screwdriver with redundant measuring system for torque and angle	Type Part no.	311ER27-0010 101624A	311ER27-0020 101624B	311ER27-0050 101624C	311ER27-0120 101624E
Torque min.	Nm/in.lbs	0.2 / 1.77	0.4 / 3.54	1 / 8.85	2.4 / 21.24
Torque max.	Nm/in.lbs	1 / 8.85	2 / 17.7	5 / 44.25	12 / 106.2
Speed min.	rpm	100	60	40	20
Speed max.	rpm	1600	1500	800	400
Diameter	mm/in.	27 / 1.05	27 / 1.05	27 / 1.05	27 / 1.05
Length 311E / 311ER	mm/in.	360/14.05 / 433/16.9	360/14.05 / 433/16.9	360/14.05 / 433/16.9	360/14.05 / 433/16.9
Weight 311E / 311ER	kg/lbs	1.2/2.64 / 1.4/3.1	1.2/2.64 / 1.4/3.1	1.2/2.64 / 1.4/3.1	1.2/2.64 / 1.4/3.1
Noise level	dB(A)	68	68	68	68
Internal hex. drive DIN ISO 1173		F6.3	F6.3	F6.3	F6.3
Suitable tool inserts and connecting components with a drive as per DIN ISO 1173		E6.3	E6.3	E6.3	E6.3

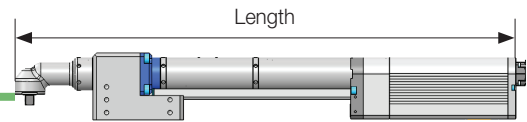
MINIMAT-EC-Servo, straight spindle form		size 36 with quick change chuck		
Screwdriver	Type Part no.	311E36-0150 205000A	311E36-0300 205000C	311E36-0500 205000D
Screwdriver with redundant measuring system for torque and angle	Type Part no.	311ER36-0150 108717A	311ER36-0300 108717C	311ER36-0500 108717D
Screwdriver with integrated off-set gearing (to minimize the center distance)	Type Part no.	311E36-0160-SV1 **) 104472A	-	-
Torque min. 311E / 311ER 311E36-0160-SV1	Nm/in.lbs	3 / 26.55 3.2 / 28.32	6 / 53.1	10 / 88.5
Torque max. 311E / 311ER 311E36-0160-SV1	Nm/in.lbs	15 / 132.75 *) 16 / 141.6 *)	30 / 265.5 *)	50 / 442.5 *)
Speed min.	rpm	50	30	20
Speed max.	rpm	1000	600	380
Diameter	mm/in.	36 / 1.4	36 / 1.4	36 / 1.4
Length 311E / 311ER 311E36-0160-SV1	mm/in.	473/18.45 / 575/22.42 487/ 19	476/18.56 / 578/22.54	476/18.56 / 578/22.54
Weight 311E / 311ER 311E36-0160-SV1	kg/lbs	2.8/6.2 / 3.2/7.04 3.6/7.92	2.8/6.2 / 3.2/7.04	2.8/6.2 / 3.2/7.04
Noise level	dB(A)	62	62	62
Internal hex. drive DIN ISO 1173		F6.3	F11.2	F11.2
Suitable tool inserts and connecting components with a drive as per DIN ISO 1173		E6.3	E11.2	E11.2

*) With a voltage below 180V the maximum torque will be reduced to 80% of the specified value.

**) For assembly in confined spaces.

MINIMAT-EC-Servo, straight spindle form		size 42 with quick change chuck		size 63		
Screwdriver	Type Part no.	311E42-0300 206000B	311E42-0800 206000D	311E63-1800 416400D	311E63-3500 416400F	311E63-5000 416400H
Screwdriver with redundant measuring system for torque and angle	Type Part no.	311ER42-0300 101625B	311ER42-0800 101625D	311ER63-1800 107200D	311ER63-3500 107200F	311ER63-5000 107200H
Torque min.	Nm/in.lbs	6 / 53.1	16 / 141.6	36 / 318.6	70 / 619.5	100 / 885
Torque max.	Nm/in.lbs	30 / 265.5	80 / 708	180 / 1593	350 / 3097.5	500 / 4425
Speed min.	rpm	50	20	15	10	10
Speed max.	rpm	890	330	300	155	90
Diameter	mm/in.	42 / 1.64	42 / 1.64	63 / 2.46	63 / 2.46	63 / 2.46
Length 311E / 311ER	mm/in.	478/18.64/81/22.66	478/18.64/81/22.66	617/24.06/745/29.1	617/24.06/745/29.1	617/24.06/745/29.1
Weight 311E / 311ER	kg/lbs	4.2/9.24 / 5/11	4.2/9.24 / 5/11	12.9/28.38 / 15/33	12.9/28.38 / 15/33	12.9/28.38 / 15/33
Noise level	dB(A)	66	66	73	73	73
Internal hex. drive DIN ISO 1173		F11.2	F11.2	-	-	-
External square drive DIN 3121		-	-	F20 (3/4")	F20 (3/4")	F20 (3/4")
Suitable tool inserts and connecting components with a drive as per DIN ISO 1173 with a drive as per DIN 3121		E11.2	E11.2	-	-	-
		-	-	H20 (3/4")	H20 (3/4")	H20 (3/4")

SYSTEM COMPONENTS



MINIMAT-EC-Servo, angle head design		size 36		
Screwdriver	Type	311EW36-0220-F10	311EW36-0420-F10	311EW36-0700-F12.5
	Part no.	108121A	108121B	108121C
Torque min.	Nm/in.lbs	5 / 44.25	9 / 79.65	14 / 123.9
Torque max.	Nm/in.lbs	22 / 194.7	42 / 371.7	70 / 619.5
Speed min.	rpm	35	20	10
Speed max.	rpm	650	350	200
Diameter	mm/in.	36 / 1.4	36 / 1.4	36 / 1.4
Length	mm/in.	554 / 21.6	554 / 21.6	557.5 / 21.74
Weight	kg/lbs	4.8 / 10.56	4.8 / 10.56	5.1 / 11.22
Noise level	dB(A)	68	62	62
External square drive	DIN 3121	F10	F10	F12.5
Suitable tool inserts and connecting components with a drive as per DIN 3121		G10	G10	G12.5

Optional Accessories

Machine Capability Study Torque *)	Part no.	000717	- Evaluation of 50 measured values - Idle speed, Average - Standard deviation, Cm-Value, Cmk-Value
Machine Capability Study Torque angle *)	Part no.	000718	

*) Additional services, e.g. calibration of screwdrivers, can be found in our catalog D3330E.

Motor Cable	Length	Part no.
	5 m/16.4 ft (standard)	8337252
	8 m/26.2 ft	8337253
	12 m/39.4 ft	8337254

The screwdriver spindles size 27 and type 311E36-0150 (size 36) can also be delivered with an automatic screw feed system. Please contact us for more information!

Sequence Controller		AST40		ASTi40	
for screwdriver		311E(R)27/36/42 311EW36	311E(R)63	311E(R)27/36/42 311EW36	311E(R)63
Sequence controller	Type	AST40-1	AST40-2	ASTi40-1	ASTi40-2
Basic version with input/output interface	Part no.	385588A	387022A	428006A	387044A
Sequence controller	Type	AST40-1 PB	AST40-2 PB	ASTi40-1 PB	ASTi40-2 PB
with fieldbus module Profibus port	Part no.	385588B	387022B	428006B	387044B
Sequence controller	Type	AST40-1 PN	AST40-2 PN	ASTi40-1 PN	ASTi40-2 PN
with fieldbus module Profinet port	Part no.	385588C	387022C	428006C	387044C
Sequence controller	Type	AST40-1 EC	AST40-2 EC	ASTi40-1 EC	ASTi40-2 EC
with fieldbus module EtherCAT port	Part no.	385588D	387022D	428006D	387044D
Sequence controller	Type	AST40-1 E/IP	AST40-2 E/IP	ASTi40-1 E/IP	ASTi40-2 E/IP
with fieldbus module EtherNet/IP port	Part no.	385588E	387022E	428006E	387044E
Sequence controller	Type	AST40-1 RS232	AST40-2 RS232	ASTi40-1 RS232	ASTi40-2 RS232
with interface AST40 RS232 for data output, format programmable via web page	Part no.	385588F	387022F	428006F	387044F
Technical data:					
Power unit (AC)	V / Hz	100 - 240 / 50/60		100 - 240 / 50/60	
Insulation		IP54		IP54	
TFT-display (touch)		7", 800x480		-	
24V input/output interface		27 inputs / 30 outputs		27 inputs / 30 outputs	
Dimensions (W x H x D)	mm / in.	232 x 315 x 205 / 9.05 x 12.3 x 8		232 x 315 x 205 / 9.05 x 12.3 x 8	
Weight	kg / lbs	approx. 13 / 28.6		approx. 13 / 28.6	
Number of screwdriving programs (start via I/O interface or fieldbus)		120		120	
Number of screwdriving programs created via http		unlimited		unlimited	
Included in delivery					
Patch cable (connection cable ASTi40-PC)	Part no.	-		831902	
Optional accessories		-		DPU110 or DPU210 Please find technical data and further details in our brochure D3350E.	

SYSTEM COMPONENTS

Required Accessories

Power supply cable	Length 1.8 m/5.9 ft (EU)	Part no.	385443A
Power supply cable	Length 1.8 m/5.9 ft (USA)	Part no.	385443B
Power supply cable	Length 1.8 m/5.9 ft (Brazil)	Part no.	385443D
Power supply cable	Length 2.5 m/8.2 ft (China)	Part no.	385443C

Optional accessories suitable for controller	Type	AST40	ASTi40
Table stand	Part no.	300085A	-
Patch cable 2 m	Part no.	831902	-
ASTi40 reset plug	Part no.	-	425080A
Touch pen	Part no.	832190	-
Bus cable Length 2 m/6.56 ft, IP68 RJ45 - open wires (no connector) Cat.6	Part no.	138689	138689
Bus cable Length 5 m/16.4 ft, IP68 RJ45 - open wires (no connector) Cat.6	Part no.	138690	138690
Bus cable Length 2 m/6.56 ft, IP68 RJ45 - RJ45 Cat.6	Part no.	138685	138685
Bus cable Length 5 m/16.4 ft, IP68 RJ45 - RJ45 Cat.6	Part no.	138686	138686
Bus cable Length 2 m/6.56 ft, IP68 RJ45 - IP68 RJ45 Cat.6	Part no.	138687	138687
Bus cable Length 5 m/16.4 ft, IP68 RJ45 - IP68 RJ45 Cat.6	Part no.	138688	138688

Optional Additional Software

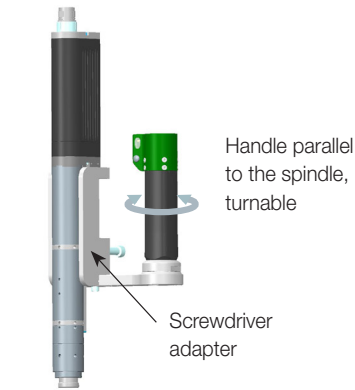
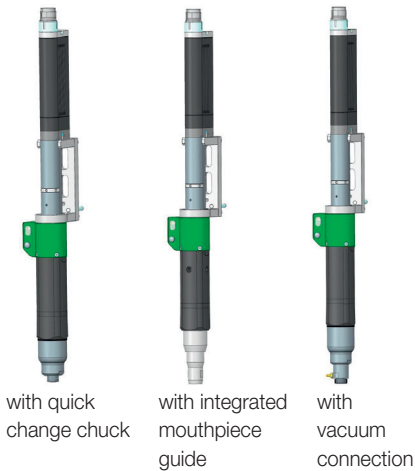
Interface Graph Loader (hardware and software)	Part no.	385834A
Connection cable (AST40 - Graph Loader)	Part no.	385835D
Software ASTxx Serial Remote (activation key) for the simple storage of screwdriving curves and result-data to a PC	Part no.	206565
Software Datalogger (activation key)	Part no.	202699
Software Friction value screwdriving (activation key)	Part no.	201820
Software DEPRAG Clamp Force Control - DEPRAG CFC (activation key)	Part no.	109108
Software Statistics (activation key)	Part no.	206081
Software Graph Viewer for sequence controller AST (activation key)	Part no.	128901
Software Deprag Data eXchange for sequence controller AST (activation key)	Part no.	132680
Software TIA Link (activation key)	Part no.	135839
Software TwinCAT Link (activation key)	Part no.	140996
Software Open Protocol (activation key)	Part no.	178341
DEPRAG Cockpit Advanced 1/5/10/20/50 licenses	Part no.	145795/145796/145797/145798/145799
DEPRAG Cockpit Professional 1/5/10/20/50 licenses	Part no.	145440/142967/142968/142978/142979

For more details to the software products, please see brochure D3900E.



Our software solutions undergo continuous improvements. We recommend that you regularly update your software. In this way you will always receive the most up-to-date security updates, upgraded features and drivers. With the most current version of the software you can be sure that your device is optimally prepared for Industry 4.0.

COMPONENTS for the use in manual work stations - also in connection with feeder



Handle in line with spindle with quick change chuck

For EC-Servo screwdriver spindles		311E27-xxxx	311E36-0150	311E36-0300 311E36-0500
Handle	Part no.	425800A	425900A	425900B
Internal hex. drive DIN ISO 1173		F6.3	F6.3	F11.2

Handle in line with spindle with vacuum connection

For EC-Servo screwdriver spindles		311E27-xxxx	311E36-0150	311E36-0300 311E36-0500
Handle	Part no.	425800E	425900F	425900G
Internal hex. drive DIN ISO 1173		F6.3	F6.3	F11.2

Handle in line with spindle with integrated mouthpiece guide for the use in connection with an automatic feeder

For EC-Servo screwdriver spindles		311E27-xxxx	311E36-0150
Handle, Length of stroke 80 mm	Part no.	4258001B	425900C
Handle, Length of stroke 100 mm	Part no.	4258001C	425900D
Handle, Length of stroke 120 mm	Part no.	4258001D	425900E

Handle at side of spindle

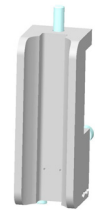
For EC-Servo screwdriver spindles		311E36-xxxx/311E42-xxxx
Handle	Part no.	1029831A

All the handles have an LED status display (OK/NOT OK), an ergonomic start lever and an additional button for reversal or to start a screwdriving program. Operating elements can be adapted to a specific application by selecting the operating mode. In this way for example the tool can be pre-programmed so that a second screwdriving program can be started directly by pressing the switch (e.g. a loosening program). Alternatively the mode can be selected so that the button is used for the pre-selection of the screwdriving program started via lever.

Required Accessories

For EC-Servo screwdriver spindles		311E27-xxxx	311E36-xxxx	311E42-xxxx
Weight of the screwdriver spindle	311E	1.2 kg/2.64 lbs	2.8 kg/6.16 lbs	4.2 kg/9.24 lbs
Linear stand	Part no.	408010A	408010B	408010C
for torque reaction up to	Nm/in.lbs	20/177	50/443	150/1328
Weight of the horizontal arm	kg/lbs	2/4.4	6.7/14.74	13.7/30.14
Screwdriver adapter for the attachment to a linear stand with handle in line with spindle	Part. no.	4008333C	4008333B	-
Screwdriver adapter for the attachment to a linear stand with handle parallel to the spindle	Part. no.	-	133162A	102982A
Connection cable to AST40	Part. no.	385584A	385584A	385584A
Connection cable to PLC	Part. no.	385584B	385584B	385584B

The suitable linear stands and balancers can be found in our brochure D3345E. In order to select the appropriate balancer please consider the weight of the horizontal arm, the weight of the screwdriver and additionally a mass of 1 kg for the screwdriver adapter and the handle. To split the weight we highly recommend to use 2 balancers.



Screwdriver adapter
102982A/133162A



Turn fixture 917333A

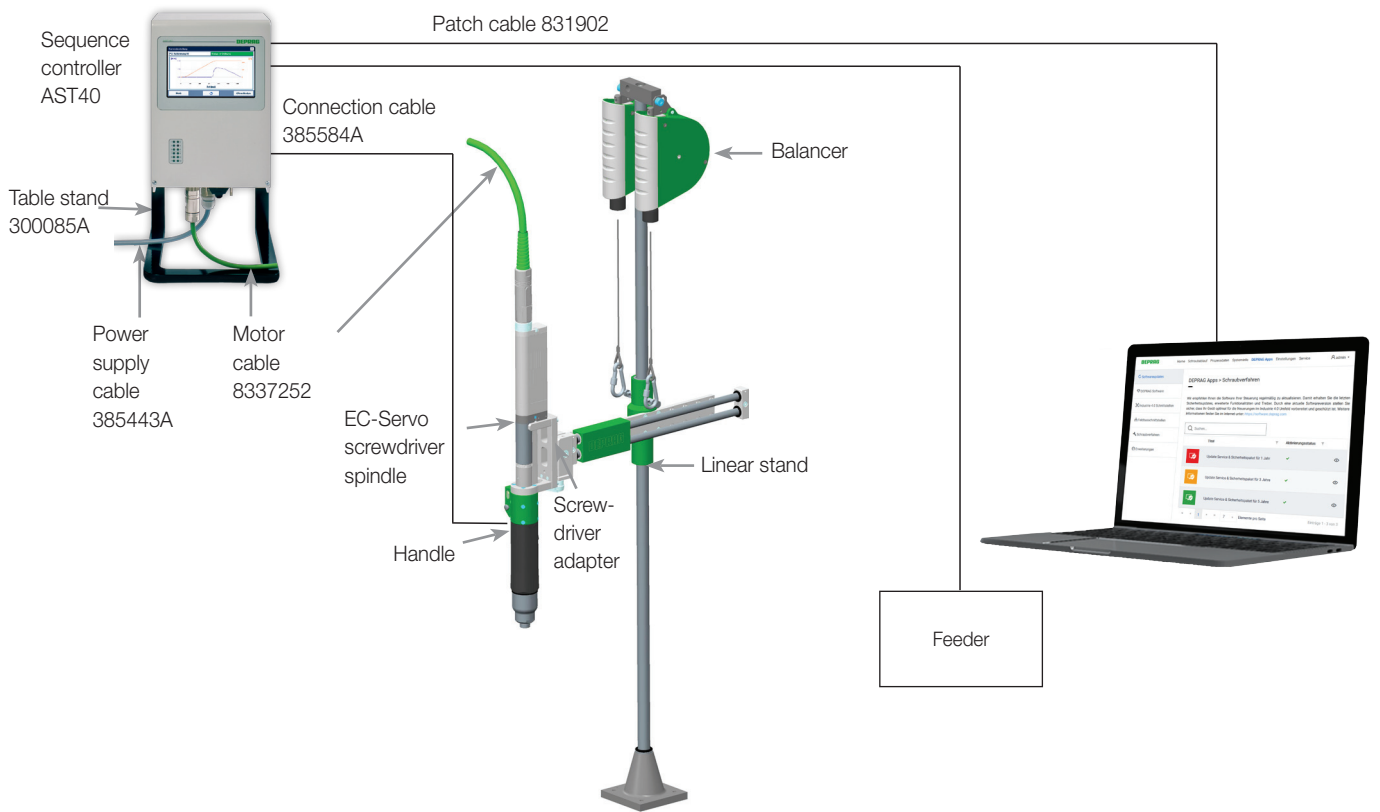


Support ring 398704A

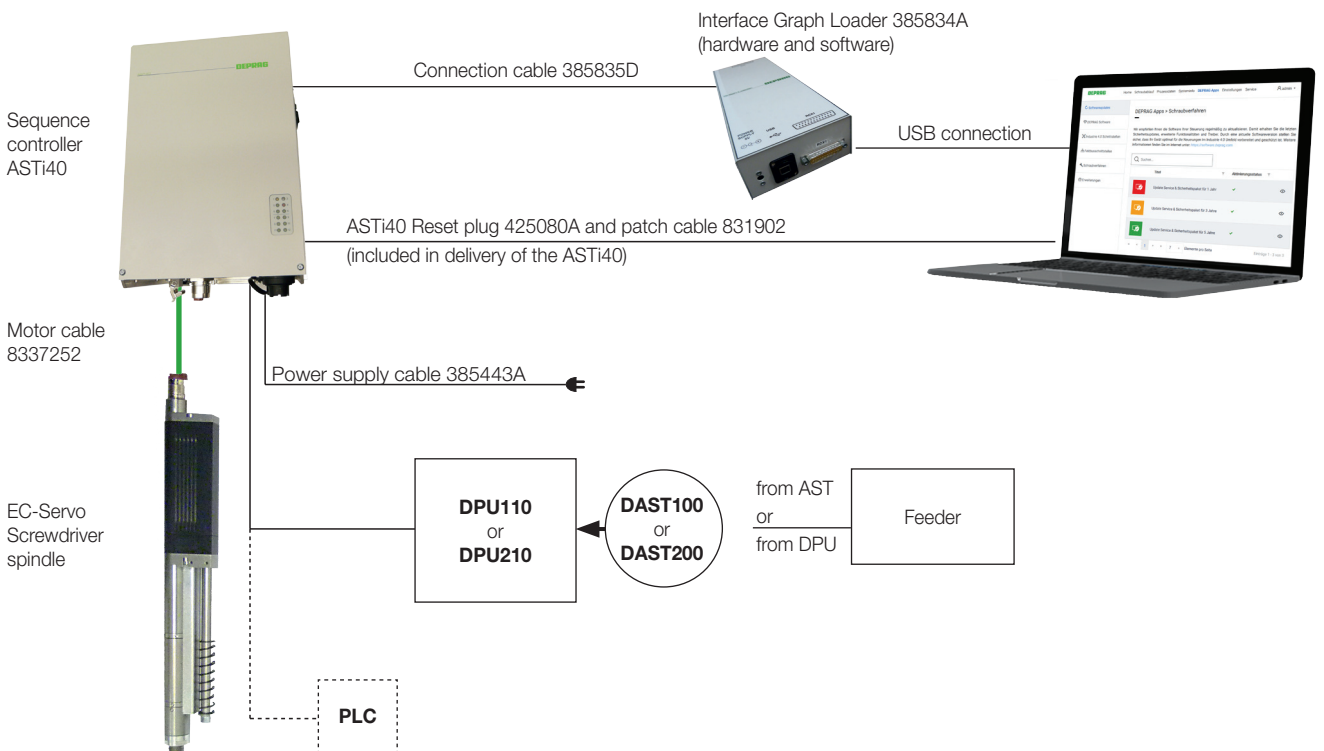
Optional accessories for EC-Servo screwdriver spindles		311E27-xxxx	311E36-xxxx
Turn fixture	Part no.	917333A	on request
The rotary unit is integrated between the screwdriver adaptor and handle and enables rotation of the handle. Ergonomic handling is therefore guaranteed even on larger work surfaces.			
Please note: When using the rotary unit with the version of the handle with quick change chuck or vacuum connection the holder on the handle must be replaced by the holder part number 917695 which must be ordered separately.			
Support ring	Part no.	398704A	398704A
The support ring can not be used in connection with handle with integrated mouthpiece guide.			
Support ring suitable for handle with integrated mouthpiece guide	Part no.	398704C	398704C

Please note: when used as a handheld screwdriver only 3 screwdriving programs are available

SYSTEM OVERVIEW when used in manual work stations



SYSTEM OVERVIEW in connection with ASTi40

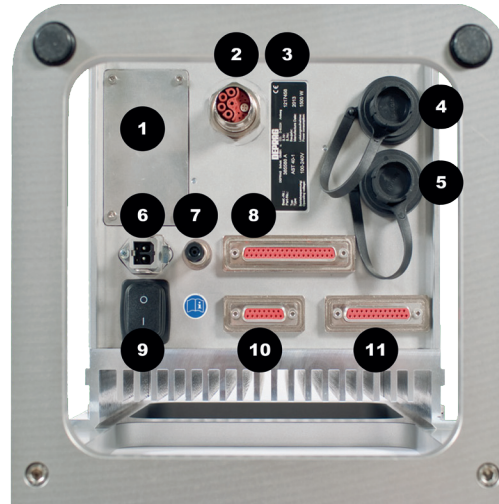


SYSTEM OVERVIEW in connection with AST40

Sequence controller AST40
connected to the screwdriver
via motor cable



OVERVIEW INTERFACES of the AST40



- 1 = fieldbus or printer interface (optional)
- 2 = motor cable connection
- 3 = type plate
- 4 = USB interface for system image generation
- 5 = Ethernet connection
- 6 = power supply
- 7 = 2-channel emergency stop
- 8 = I / O interface PLC 1
- 9 = on / off switch
- 10 = I / O interface PLC 3 (reload signal)
- 11 = I / O interface PLC 2

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CERTIFIED AS PER DIN EN ISO 9001

Electric Screwdrivers equipped with a mechanical shut-off-clutch



Ideal for basic applications in environments without compressed air

- **economical**
- **air independent**

The cost-effective electric screwdriver with mechanical shut-off clutch is a good alternative if no pneumatic connection is available. Our range of handheld electric screwdrivers provides the customer with the familiar quality features of DEPRAG screwdriving systems. This ergonomic screwdriver is available with varying functions such as e.g. push-to-start or lever start.

For all screwdriver types speed regulation is possible.

Seven performance classes cover the application areas for precision engineering screw assemblies up to M6 or 12 Nm. The torque set on the mechanical shut-off clutch has an accuracy of $\pm 3\%$ standard deviation.

The separate electricity supply of 32 V and 40 V extra-low voltage ensures safe usage.

Our standard program for inserting tools is applicable.

Handheld Screwdriver electric

342EGA-0088/342EGA-0120

342EGA-0029 to 342EGA-0049

342EGT-0012 to 342EGT-0019

342EGT-0003 with screwdriver cable



ADVANTAGES

Drive

The screwdriver is equipped with a brushless drive motor with low voltage supply. The high degree of efficiency of the EC motor results in a larger torque and speed range in a lower weight and smaller diameter screwdriver.

Power range

Throughout the four sizes, shut-off torque can be set from 0.04 to 12 Nm. The high speeds of up to 1000 rpm guarantee short screw cycle times.

Precision

Torque accuracies of <3% standard deviation and thus Cmk values of ≥ 1.67 with a tolerance of $\pm 15\%$ can be reached * with these electric handheld screwdrivers. Statistically speaking, the error rate is less than 0.6 per one million screw assemblies.

*) under suitable process conditions

ESD capability

All screwdrivers fulfil the requirements for the processing of ESD-sensitive components.

Electricity supply

The power units have a wide range of input voltages and can be used worldwide in connection with country-specific power cables.

TECHNICAL DATA

Electric Screwdrivers, handheld, straight

Screwdriver reversible right shut-off, lever-start	Type Part no.	342EGT-0003 454500A	342EGT-0012 454501A	342EGT-0019 454502A	342EGT-0029 454503A	342EGT-0049 454504A	342EGT-0088 454505A	342EGT-0120 454512A
Screwdriver reversible right shut-off, push-to-start	Type Part no.	-	342EGA-0012 454506A *)	342EGA-0019 454507A *)	342EGA-0029 454508A *)	342EGA-0049 454509A *)	342EGA-0088 454510A	342EGA-0120 454511A
Screws	up to	M2	M3	M4	M4	M5	M6	M6
Torque min.	Nm / in.lbs	0.04 / 0.4	0.15 / 1.3	0.3 / 2.6	1 / 8.85	2 / 17.7	3 / 26.5	4 / 35.4
Torque max.	Nm / in.lbs	0.3 / 2.6	1.2 / 10.6	1.9 / 16.8	2.9 / 25.7	4.9 / 43.4	8.8 / 77.9	12 / 106.2
Speed – reversible	rpm	700/1000	700/1000	700/1000	750/1000	750/1000	600/800	400/550
Handle – diameter	mm / in.	30 / 1.2	36 / 1.4	36 / 1.4	40 / 1.6	40 / 1.6	46 / 1.8	46.5 / 1.81
Length	mm / in.	210 / 8.2	238 / 9.3	238 / 9.3	277 / 10.8	277 / 10.8	310 / 12	310 / 12
Weight	kg / lbs	0.39 / 0.86	0.52 / 1.14	0.52 / 1.14	0.8 / 1.76	0.8 / 1.76	1.2 / 2.64	1.2 / 2.64
Noise level	dB (A)	66	68	68	68	68	68	68
Line voltage	V	32	32	32	40	40	40	40
Quick change chuck								
Hex female DIN ISO 1173		F6.3	F6.3	F6.3	F6.3	F6.3	F6.3	F6.3

Suitable tool inserts and connecting components with a drive as per DIN ISO 1173 – E6.3 (1/4"), see also our brochure D3320E.

*) Also available in combination with feeder.

Required Accessories

Screwdriver cable (2m/6.6ft.) standard	Part no.	included in delivery	833783	833783	833783	833783	833783	833783
alternative:								
Screwdriver cable (3m/9.8ft.)	Part no.	-	834034	834034	834034	834034	834034	834034
Screwdriver cable (6m/19.6ft.)	Part no.	-	143359	143359	143359	143359	143359	143359
Spiral cable (2m/6.6ft.)	Part no.	-	834036	834036	834036	834036	834036	834036
Power unit	Type Part no.	NG32-100W 833770	NG32-100W 833770	NG32-100W 833770	NG40-200W 834500	NG40-200W 834500	NG40-360W 146034	NG40-360W 146034
Source (AC)	V/Hz	110-240/50-60	110-240/50-60	110-240/50-60	100-240/50-60	100-240/50-60	100-240/50-60	100-240/50-60
Output (DC)	V	32	32	32	40	40	40	40
Dimensions L x W x H	mm	150x48x130	150x48x130	150x48x130	210x135x70	210x135x70	210x135x70	210x135x70
	in.	5.85x1.87x5.07	5.85x1.87x5.07	5.85x1.87x5.07	8.19x5.26x2.73	8.19x5.26x2.73	8.19x5.26x2.73	8.19x5.26x2.73
Weight	kg / lbs	0.95 / 2.09	0.95 / 2.09	0.95 / 2.09	1.8 / 3.96	1.8 / 3.96	1.8 / 3.96	1.8 / 3.96
Power cable EU	Type Part no.	KN-C5/EU 833787 (1.5m) 816130 (3m)	KN-C5/EU 833787 (1.5m) 816130 (3m)	KN-C5/EU 833787 (1.5m) 816130 (3m)	KN-C13/EU 833790 (2m)	KN-C13/EU 833790 (2m)	KN-C13/EU 833790 (2m)	KN-C13/EU 833790 (2m)
alternative:								
Power cable US	Type Part no.	KN-C5/US 833788 (1.5m)	KN-C5/US 833788 (1.5m)	KN-C5/US 833788 (1.5m)	KN-C13/US 833791 (2m)	KN-C13/US 833791 (2m)	KN-C13/US 833791 (2m)	KN-C13/US 833791 (2m)
Power cable UK	Type Part no.	KN-C5/UK 833789 (1.5m)	KN-C5/UK 833789 (1.5m)	KN-C5/UK 833789 (1.5m)	KN-C13/UK 833792 (2m)	KN-C13/UK 833792 (2m)	KN-C13/UK 833792 (2m)	KN-C13/UK 833792 (2m)
Power cable Brazil	Type Part no.	KN-C5/BR 105624 (1.8m)	KN-C5/BR 105624 (1.8m)	KN-C5/BR 105624 (1.8m)	KN-C13/BR 207388 (1.8m)	KN-C13/BR 207388 (1.8m)	KN-C13/BR 207388 (1.8m)	KN-C13/BR 207388 (1.8m)
Power cable China	Type Part no.	KN-C5/CN 105622 (1.8m)	KN-C5/CN 105622 (1.8m)	KN-C5/CN 105622 (1.8m)	KN-C13/CN 832927(2.5m)	KN-C13/CN 832927(2.5m)	KN-C13/CN 832927(2.5m)	KN-C13/CN 832927(2.5m)

OPTIONAL EQUIPMENT

Suitable for Type		342EGT-0003	342EGT-0012	342EGT-0019	342EGT-0029	342EGT-0049	342EGT-0088	342EGT-0120
		-	342EGA-0012	342EGA-0019	342EGA-0029	342EGA-0049	342EGA-0088	342EGA-0120
Pistol grip (for use as pistol grip screwdriver)	Type	-	PG2-EGT	PG2EGT	PG3-EGT	PG3-EGT	-	-
	Part no.	-	816054	816054	8337941	8337941	-	-
	Type	-	PG2-EGA	PG2-EGA	PG3-EGA	PG3-EGA	-	-
	Part no.	-	816053	816053	833794	833794	-	-
Screwdriver adaptor with sleeve (for torque support with linear stand or parallelogram stand)	Part no.	4008330E	4008330B	4008330B	4008330C	4008330C	4008330D	4008330D
Screwdriver adaptor without sleeve (in conjunction with mouthpiece guide or vacuum connection)	Part no.	4008330H	4008330F	4008330F	4008330G	4008330G	-	-
Handle	Type	-	-	-	-	-	HG4-EGA/EGT	HG4-EGA/EGT
	Part no.	-	-	-	-	-	8337942	8337942
Slow-Start Module without process monitoring (connection between power unit and screwdriver)	Type	SL	SL	SL	SL	SL	SL	SL
	Part no.	103305	103305	103305	103305	103305	103305	103305
Slow-Start Module with process monitoring (connection between power unit and screwdriver)	Type	PK	PK	PK	PK	PK	PK	PK
	Part no.	816699	816699	816699	816699	816699	816699	816699
Note: screwdriver cable 146336 is included in delivery of the slow-start module.								
Protective sleeve - metal design (as an alternative to the plastic adjust-able protection included in delivery)	Type	HS1-1	HS2-1	HS2-1	HS3-1	HS3-1	-	-
	Part no.	421322	419336	419336	419447	419447	-	-
Torque setting tool (to set the torque without disassembling the protective sleeve)	Type	WK1	WK2	WK2	WK3	WK3	-	-
	Part no.	834133	834134	834134	834135	834135	-	-
Vacuum connector	Part no.	104750A	418477A	418477A	418446A	418446A	-	-
Mouthpiece guide (in conjunction with feeder)	Part no.	425395C	425395B	425395B	425395A	425395A	-	-
Bit length	mm/in.	152/5.93	152/5.93	152/5.93	152/5.93	152/5.93	-	-
Max. stroke	mm/in.	45/1.75	55/2.15	55/2.15	60/2.34	60/2.34	-	-
Max. length of sleeve	mm/in.	33/1.29	36/1.4	36/1.4	40/1.56	40/1.56	-	-

 <p>Power unit NG32</p> <p>Power unit NG40</p>	 <p>Screwdriver adaptor for torque support with linear stand or parallelogram stand.</p>	<p>Slow-Start Module</p> <ul style="list-style-type: none"> → enables a screwdriving step with low speed before screwdriving to torque → soft start to ensure proper bit engagement → duration and speed of the steps can be adjusted → module type PK <ul style="list-style-type: none"> - can be used in conjunction with a PLC to control the process - signals for „direction of rotation“, „shut-off“ and „external start release“ 
<p>With pistol grip PG2-/3-.. the electric screwdriver (straight version) can also be used as pistol grip screwdriver.</p> 	 <p>Handle Type HG4-EGA/EGT can be optionally used with screwdriver type 342EGT/EGA-0088.</p>	<p>Torque setting tool</p> <ul style="list-style-type: none"> → for torque setting without disassembly of the protective sleeve → when frequent changes of the shut-off torque are necessary. 

Remark:

Details on our feeding systems can be found in brochure D3820E.

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