



Screwdriving technology

Automation

Air motors

Air tools

# DEPRAG

**Screwdriver Spindles  
pneumatic**

## SENSOMAT

The Control Screwdriver with regulated clutch function

Seating torque from 0.3 – 5 Nm (3 – 44 in.lbs)

- Thread forming with maximum motor power
- Seating torque less than driving torque
- Thread forming instead of thread damaging
- Simple integration
- Smallest mounting dimensions

Our pneumatic screwdriver spindles SENSOMAT with mechanical clutch function are particularly suitable for applications such as:

- Sheet metal assemblies
- Wood assemblies
- Self-tapping through bolts

The SENSOMAT has been specially designed for screw joints where the screw-driving torque (forming torque) is close to or even higher than the shut-off torque due to high friction during assembly.

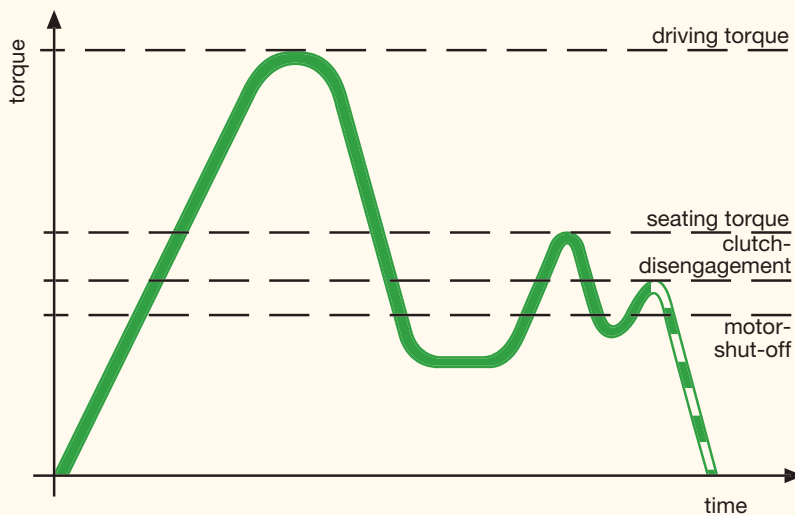
In this way for example thread forming or thread cutting screws can be reliably processed with this screwdriver which is equipped with a mechanical clutch lock – there is no chance of damaging the screw by over-tightening.



## SENSOMAT – The Control Screwdriver with regulated clutch function

### Sensomat

driving torque > seating torque (thread forming screw)



The SENSOMAT control screwdriver tightens the screw with full motor torque. Just before the base of the screw head is seated, the shut-off clutch is released and the screwdriver switches off exactly at the pre-set torque. The screw is completely screwed in without damaging the screw connection.

The SENSOMAT, a further development of the well-known MINIMAT screwdrivers achieves high torque accuracy and low  $\pm 3\%$  standard deviation with the help of the highly accurate shut-off clutch.

When used under the correct conditions DEPRAG pneumatic screwdrivers with shutoff clutch conform with a Cmk value of  $\geq 1.67$  with a tolerance requirement of  $\pm 10\%$  in relation to 6 Sigma according to ISO 5393.

In other words a Cmk value of 1.67 means that there is a failure rate of 0.6 per million screw assemblies.

## TECHNICAL DATA SENSOMAT Motor Size 2

Screwdriver style		Motor Size 2		
Spindle, right-rotation, right shut-off	<b>Type</b>	<b>347 S-228-31</b>	<b>347 S-328-31</b>	<b>347 S-528-31</b>
Push-To-Start	Part no.	391488 A	391488 B	391488 C
Spindle, right-rotation, right shut-off	<b>Type</b>	<b>347 S-220-31</b>	<b>347 S-320-31</b>	<b>347 S-520-31</b>
Remote-Start	Part no.	391489 A	391489 B	391489 C
Seating torque, minimum	Nm / in.lbs	0.5 / 4.4	0.4 / 3.5	0.3 / 3
Seating torque, maximum	Nm / in.lbs	1.6 / 14	3 / 26	5 / 44
Driving torque, maximum	Nm / in.lbs	2 / 17.6	3.3 / 29	5.5 / 49
Speed, idling	rpm	4000	1550	680
Air consumption	m <sup>3</sup> /min / cfm	0.3 / 11	0.3 / 11	0.3 / 11
Diameter max.	mm / in.	27 / 1 <sup>1</sup> / <sub>16</sub>	27 / 1 <sup>1</sup> / <sub>16</sub>	27 / 1 <sup>1</sup> / <sub>16</sub>
Length	mm / in.	245 / 9 <sup>41</sup> / <sub>64</sub>	245 / 9 <sup>41</sup> / <sub>64</sub>	245 / 9 <sup>41</sup> / <sub>64</sub>
Weight	kg / lbs	0.9 / 2	0.9 / 2	0.9 / 2
Push-to-start pressure	N / lbs	24 / 5	24 / 5	24 / 5
Pressure at max screwdriver stroke	N / lbs	100 / 22	100 / 22	100 / 22
Hose for air supply (O.D./I.D.)	mm / in.	8/5.5 (.314 / <sup>7</sup> / <sub>32</sub> )	8/5.5 (.314 / <sup>7</sup> / <sub>32</sub> )	8/5.5 (.314 / <sup>7</sup> / <sub>32</sub> )
Hose for function control (O.D./I.D.)	mm / in.	4/2.5 (.157 / <sup>3</sup> / <sub>32</sub> )	4/2.5 (.157 / <sup>3</sup> / <sub>32</sub> )	4/2.5 (.157 / <sup>3</sup> / <sub>32</sub> )
(O.D. tolerances of connection hoses according to Cetop PR54P)				
Internal hex. drive DIN ISO 1173		F6.3 (1/4")	F6.3 (1/4")	F6.3 (1/4")
Suitable tool inserts and connecting components with a drive as per DIN ISO 1173		E6.3 (1/4")	E6.3 (1/4")	E6.3 (1/4")
Quick change chuck, mounted		yes	yes	yes

Performance data relate to an air pressure of 6.3 bar (90 PSI)

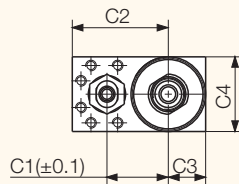
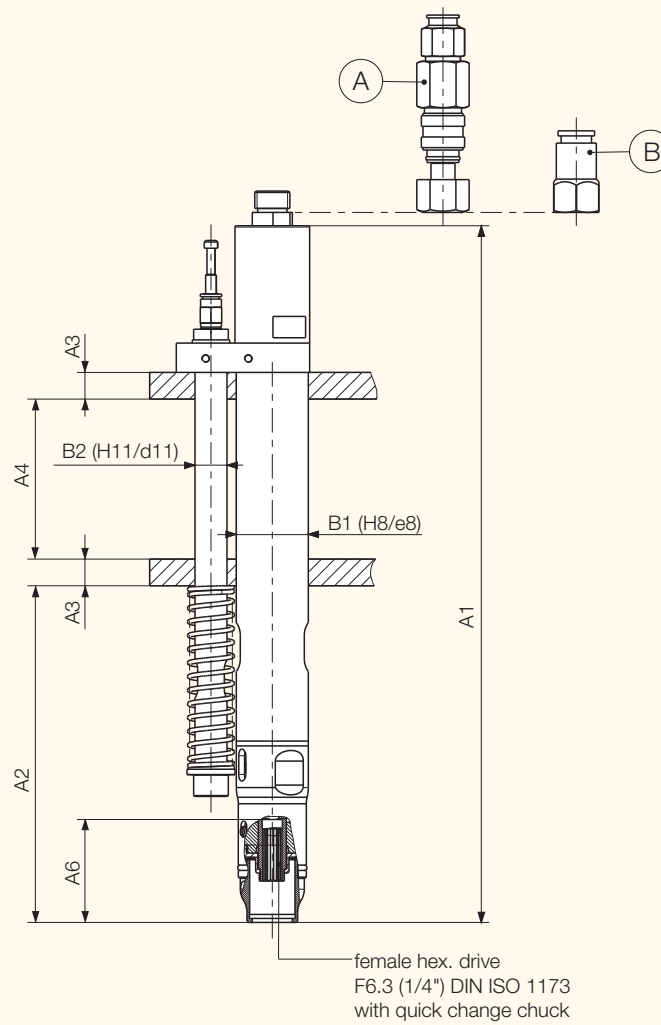
### Standard Equipment:

Set of coupler and connector plug · Set of torque adjustment tools · Set of clutch springs

Suitable tool inserts → brochure D 3320 E

**Motor Size 2**

Spindle  
right-rotation / right shut-off



A = air supply for push-to-start  
B = air supply for start by remote valve

398821

**Motor Size 2**

Type			Dimensions (mm)											
			A1	A2	A3	A4	A5	A6	B1	B2	C1	C2	C3	C4
347S-228-31	347S-328-31	347S-528-31	261.25	126.25	10	60	-	38.6	27	12	23	36	14	28
347S-220-31	347S-320-31	347S-520-31	259	124.5	10	60	-	38.6	27	12	23	36	14	28

## TECHNICAL DATA SENSOMAT Motor Size 3

Screwdriver style		Motor Size 3	
Spindle, right-rotation, right shut-off Push-To-Start	<b>Type</b> Part no.	<b>346 S-238-31</b> 409280 B	<b>346 S-738-31</b> 409280 C
Spindle, right-rotation, right shut-off Remote-Start	<b>Type</b> Part no.	<b>346 S-230-31</b> 409297 B	<b>346 S-730-31</b> 409297 C
Seating torque, minimum	Nm / in.lbs	0.5 / 4.4	0.5 / 4.4
Seating torque, maximum	Nm / in.lbs	4 / 35.4	5 / 44
Driving torque, maximum	Nm / in.lbs	4.5 / 40	7 / 62
Speed, idling	rpm	2500	1400
Air consumption	m <sup>3</sup> /min / cfm	0.45 / 16	0.45 / 16
Diameter max.	mm / in.	36 / 1 <sup>13</sup> / <sub>32</sub>	36 / 1 <sup>13</sup> / <sub>32</sub>
Length	mm / in.	264.5 / 10 <sup>13</sup> / <sub>32</sub>	264.5 / 10 <sup>13</sup> / <sub>32</sub>
Weight	kg / lbs	1.3 / 2.9	1.3 / 2.9
Push-to-start pressure	N / lbs	38 / 8	38 / 8
Pressure at max screwdriver stroke	N / lbs	116 / 26	116 / 26
Hose for air supply (O.D./I.D.)	mm / in.	10 / 7 (.422 / <sup>17</sup> / <sub>64</sub> )	10 / 7 (.422 / <sup>17</sup> / <sub>64</sub> )
Hose for function control (O.D./I.D.) (O.D. tolerances of connection hoses according to Cetop PR54P)	mm / in.	4 / 2.5 (.157 / <sup>3</sup> / <sub>32</sub> )	4 / 2.5 (.157 / <sup>3</sup> / <sub>32</sub> )
Internal hex. drive DIN ISO 1173		F6.3 (1/4")	F6.3 (1/4")
Suitable tool inserts and connecting components with a drive as per DIN ISO 1173		E6.3 (1/4")	E6.3 (1/4")
Quick change chuck, mounted		yes	yes

Performance data relate to an air pressure of 6.3 bar (90 PSI)

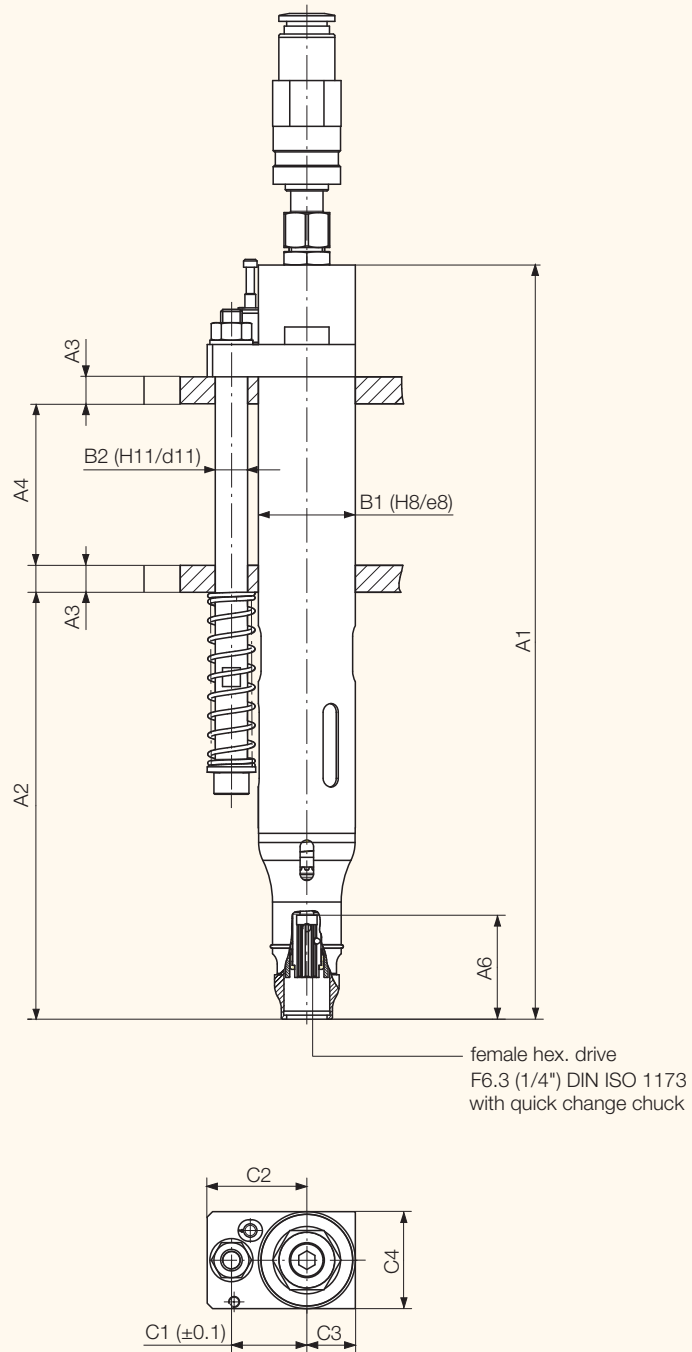
### Standard Equipment:

Set of coupler and connector plug · Set of torque adjustment tools · Set of clutch springs

 Suitable tool inserts → brochure D 3320 E

**Motor Size 3**

Spindle  
right-rotation / right shut-off



398041

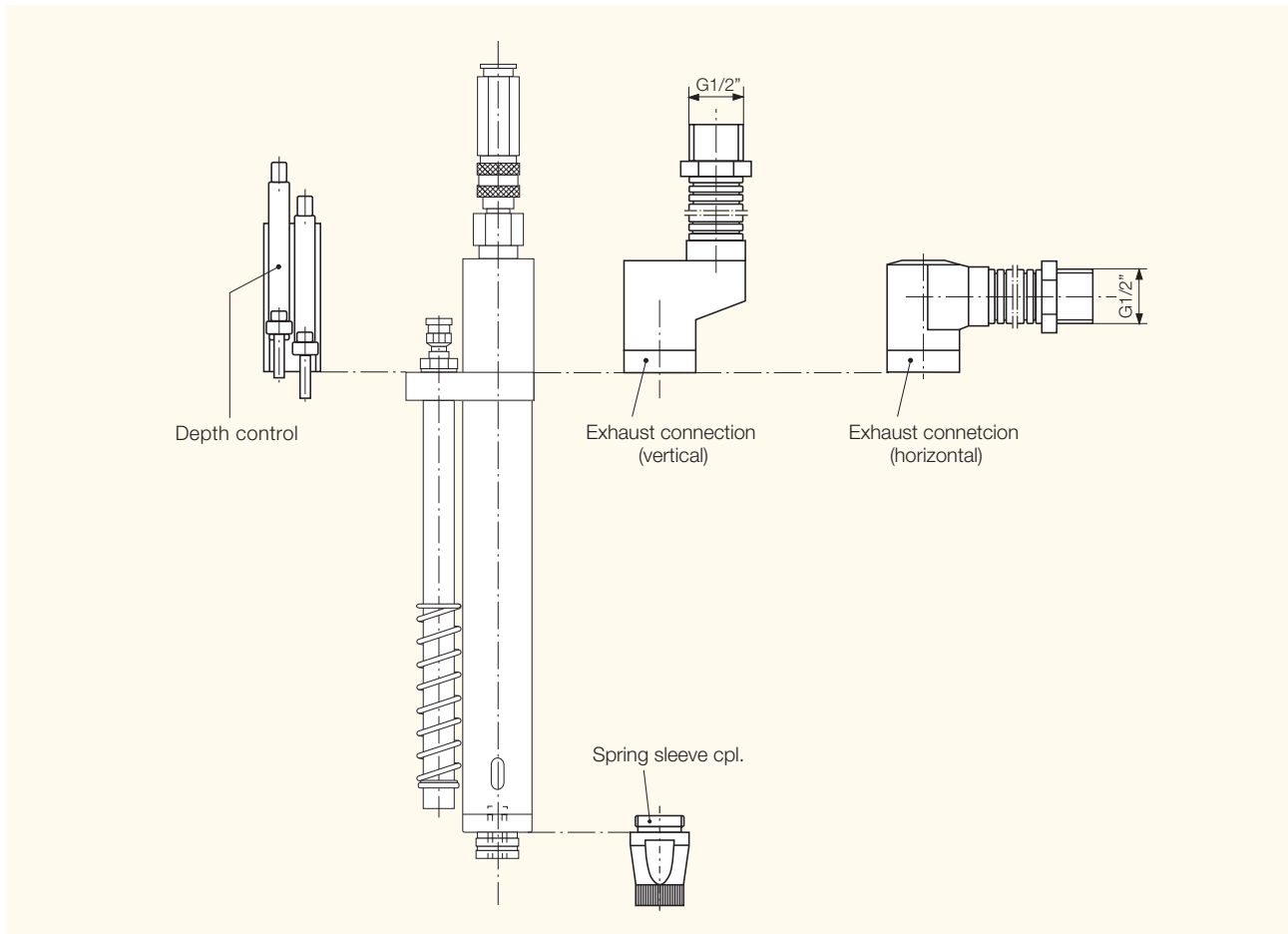
**Motor Size 3**

Type		Dimensions (mm)											
		A1	A2	A3	A4	A5	A6	B1	B2	C1	C2	C3	C4
346S-238-31	346S-738-31	280	158.5	10	60	-	38.6	36	12	28	37	18	36
346S-230-31	346S-730-31	278	156.5	10	60	-	38.6	36	12	28	37	18	36

## OPTIONAL EQUIPMENT

		Motor Size 2	Motor Size 3
Exhaust connection (vertical) <sup>1)</sup> (connection piece with 2 m / 6.6 ft. hose)	Part no.	386924 A	386924 C
Exhaust connection (horizontal) <sup>1)</sup> (connection piece with 2 m / 6.6 ft. hose)	Part no.	386924 B	386924 D
Depth control (double) incl. 2 cables (with straight plug) 5 m / 16.4 ft.	Part no.	on request	-
Sensor sleeve for screwdriver spindles with screwfeeding	Part no.	355311	355311
Sensor sleeve for screwdriver spindles without screwfeeding (see leaflet: Accessories D 3320 E, page 14 and 15)			
Adjustment bushing (for torque adjustment without sensor sleeve)	Part no.	461319	461319

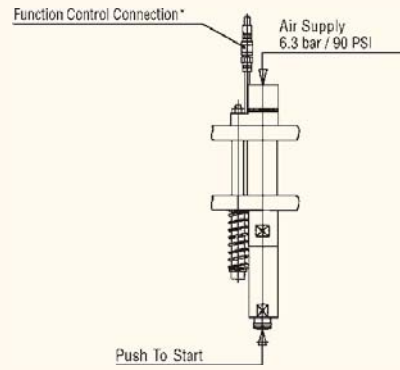
<sup>1)</sup> for corresponding exhaust filter/silencer (see leaflet D 3340 E)



## FUNCTION DESCRIPTION DRIVER-START

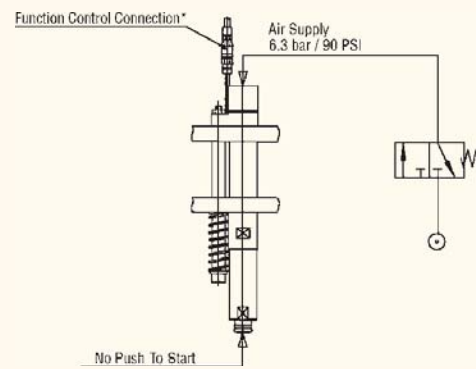
### Push To Start

Driver with one way rotation,  
right rotation and right shut-off



### Remote Start (3/2-way valve)

Driver with one way rotation,  
right rotation and right shut-off



\* During drive cycle the Function Control Line is under pressure (approx. 2 bar).

# DEPRAG DEPRAG

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