

Test report: Machinery capability investigation
from industry screwdriver



C. & E. FEIN GmbH
Schwäbisch Gmünd
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Maschine typ : Mid-mounted handle Date : 02.09.2025

Model variant : ASM 18-12 PC

Product number : 71127900940

Manufacturer : C.&E. Fein GmbH

Stage of development: Series

MCI - Typ : Homologation

Number of steps : 1-step

Test bench - ID : SCS FTY.0299



Screw connection class : 2

Fitting tolerance : 10,0%

1	2	3	4	5	6
5,0%	10,0%	12,0%	15,0%	20,0%	25,0%

Torque range : $M_{min} = 3,00$ Nm $M_{max} = 12,00$ Nm

Idle speed : $n = 600$ min⁻¹ Weight incl. Battery : $m = 1,50$ kg

Battery voltage : $U = 18,0$ V Sound pressure level : $L_{pA} = <81$ dB(A)

Battery capacity : $Q = 5200$ mAh Undervoltage detection : ☒

Torque range investigation : Testing machine : 3 Stück

$30\% \rightarrow M_{30\%} = M_{min} + 30\% \times (M_{max} - M_{min}) = 5,70$ Nm
 $80\% \rightarrow M_{80\%} = M_{min} + 80\% \times (M_{max} - M_{min}) = 10,20$ Nm
 $M_{max} = 100\% \rightarrow M_{100\%} = M_{min} + 100\% \times (M_{max} - M_{min}) = 12,00$ Nm

Information on all 3 test items

Load level		30%		80%		100%	
Test torque	$M_d =$	5,70		10,20		12,00	
Joints		hard	soft	hard	soft	hard	soft
		30°	360°	30°	360°	30°	360°
$c_{m \min} =$		3,48	2,66	2,36	3,81	2,74	3,31
$c_{mk \min} =$		2,85	2,11	2,32	3,47	2,63	3,07

Name :		Date :	
Carried out by	:	L. Feldnick	29.04.2025
Test report prepared by	:	D. Schimpf	02.09.2025

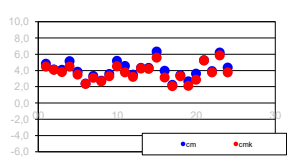
Testbench Measuring				MCS for FEIN-Project : 3		Homologation		Date: 02.09.2025				
ASM 18-12 PC				ScrewdriverType ASM		Accuracy-Class 10,0%		Class : 2				
Variant:				18-12 PC		M _{range} =		3,00 up to 12,00 Nm				
						n _{given} = 600 rpm		U = 18,00 V				
								cycles: 100				
MCSs	M _d [Nm]	Angle [°]	M _q [Nm]	ΔM _{q 1/2} [Nm]	s [Nm]	c _m [1]	c _{mk} [1]	n [min ⁻¹]	Remarks			
1	3,00	360°	2,979	0,019	0,021	4,80	4,47	566	71127900940 2025-02.000001	0%		
1	3,00	30°	2,998		0,024	4,10	4,07	570				
1	5,70	360°	5,741	0,035	0,047	4,06	3,77	568			71127900940 2025-02.000002	30%
1	5,70	30°	5,776		0,037	5,13	4,45	564				
1	10,20	360°	10,291	0,071	0,089	3,81	3,47	564				
1	10,20	30°	10,220		0,144	2,36	2,32	566				
1	12,00	360°	11,912	0,039	0,121	3,31	3,07	568	71127900940 2025-02.000004	100%		
1	12,00	30°	11,951		0,146	2,74	2,63	564				
2	3,00	360°	2,976	0,064	0,028	3,54	3,26	573			71127900940 2025-02.000005	0%
2	3,00	30°	3,040		0,019	5,18	4,49	575				
2	5,70	360°	5,803	0,056	0,042	4,55	3,73	558				
2	5,70	30°	5,747		0,055	3,48	3,19	568				
2	10,20	360°	10,217	0,015	0,079	4,29	4,21	573	71127900940 2025-02.000007	80%		
2	10,20	30°	10,232		0,079	4,31	4,18	568				
2	12,00	360°	11,857	0,394	0,064	6,30	5,55	570			71127900940 2025-02.000008	100%
2	12,00	30°	12,251		0,102	3,93	3,10	566				
3	3,00	360°	3,021	0,030	0,046	2,20	2,04	581				
3	3,00	30°	2,991		0,029	3,39	3,29	579				
3	5,70	360°	5,818	0,000	0,071	2,66	2,11	571	71127900940 2025-02.000010	30%		
3	5,70	30°	5,818		0,053	3,60	2,85	575				
3	10,20	360°	10,212	0,053	0,065	5,25	5,19	566			71127900940 2025-02.000011	80%
3	10,20	30°	10,159		0,087	3,91	3,75	564				
3	12,00	360°	12,069	0,093	0,064	6,20	5,85	562				
3	12,00	30°	12,162		0,092	4,34	3,76	564				

Start of measurement: 09:00

End of measurement: 16:00

Homologation: 3 Machines out of a series, each 0%, 30%, 80% and 100% the torque-ranges.
Waiting time between load changes see specification VDI 2647 February 2013 Homologation.
Series of measurement per machine, Nominal Torque and Screwinghardness each 100 Load changes (LW).
Measurement based on VDI 2647 February 2013

c _{m min} = 2,20	c _{m q} = 4,06	c _{m max} = 6,30	s _{cm} = 1,048
c _{mk min} = 2,04	c _{mk q} = 3,70	c _{mk max} = 5,85	n _{MFU} = 24
Name: D. Schimpf		Project: 3 : ASM 18-12 PC	
 C. & E. FEIN GmbH Schwäbisch Gmünd		Stage of Development : Series	



c _{m min}	c _m - Minimum Value
c _{mk min}	c _{mk} - Minimum Value
c _{m q}	c _m - Mid Value
c _{mk q}	c _{mk} - Mid Value
c _{m max}	c _m - Maximum Value
c _{mk max}	c _{mk} - Maximum Value
s _{cm}	c _m - Standard deviation
n _{MCS}	No. of Machine Capability Study (MCS)
γ	correction value