
Clé
Récepteur
Visualisation
Clé N° F030019
Mesure N° 000177
Couple appliqué 21,0 N.m

6. Torque control

Facom services 264

Torque wrenches 271

Torque multiplier 282

Easotork radio transmission wrenches 284

Release-type torque drivers 291

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692  Section 17 0-series bits 4 mm drive

NEW

NEW

Series R.306-5 click wrenches

Compact torque wrench for confined spaces

Advantages

- Compact
- Reliable
- Safe and precise
- Ergonomic

N 273

Torque control services

Guaranteed peace of mind

Advantages

- Cofrac services
- Calibration certificates
- Torque adjustments
- Tool checking

cofrac ETALONNAGE

N 268

NEW

Radio-frequency torque transmission

Advantages

- Identification of correct and incorrect torques
- Total traceability of data
- Production process control

easotork

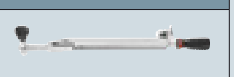
N 284

Torque wrenches

Selection guide

To find the right wrench for your application :

① Choose the type of application ② Choose the torque-setting method

	306D	306R	306U	208	208D	200	203
①	VERNIER : VARIABLE TORQUE ADJUSTMENT						
②	5° RELEASE ANGLE					VISUAL AND AUDIBLE INDICATION	MANUAL RESET
③	50,000 cycles. +/- 4 % 9x12, 14x18, Ø30	50,000 cycles. -/+ 4 % 20x7	50,000 cycles. +/- 4 % 9x12, 14x18, lbf.in or lbf.ft	25,000 cycles. +/- 4 % Fixed ratchet	25,000 cycles. +/- 4 % 9x12, 14x18	15,000 cycles. +/- 4 % Ø30	100,000 cycles. +/- 6 % 20x7, Fixed drive
④							

TIGHTENING TORQUE IN Nm

0 0.05 0.1 0.5 1 5 10 50 100 200 300 500 1000 1500 2000 2500

306D: R.306-25D 5–25; R.304DA 1–5; J.306-50D 10–50; S.306-100D 20–100; S.306-200D 40–200; S.306-350D 70–350; K.315DA 120–600; K.325DA 200–1000

306R: S.306-100R 20–100; S.306-200R 40–200; S.306-350R 70–350

306U: R.306U 4,52–22,6; J.306U 22.6–113; S.306U 68–339

208: R.208-25 5–25; J.208-50 10–50; S.208-100 20–100; S.208-200 40–200; S.208-340 60–340

208D: J.208-50D 10–50; S.208-100D 20–100; S.208-200D 40–200; S.208-340D 60–340

200: K.200DB 180–900; K.202DB 300–1500; M.200DB 500–2500

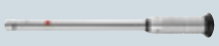
203: R.203DA 6–36; J.203DA 20–100; S.203DA 40–200

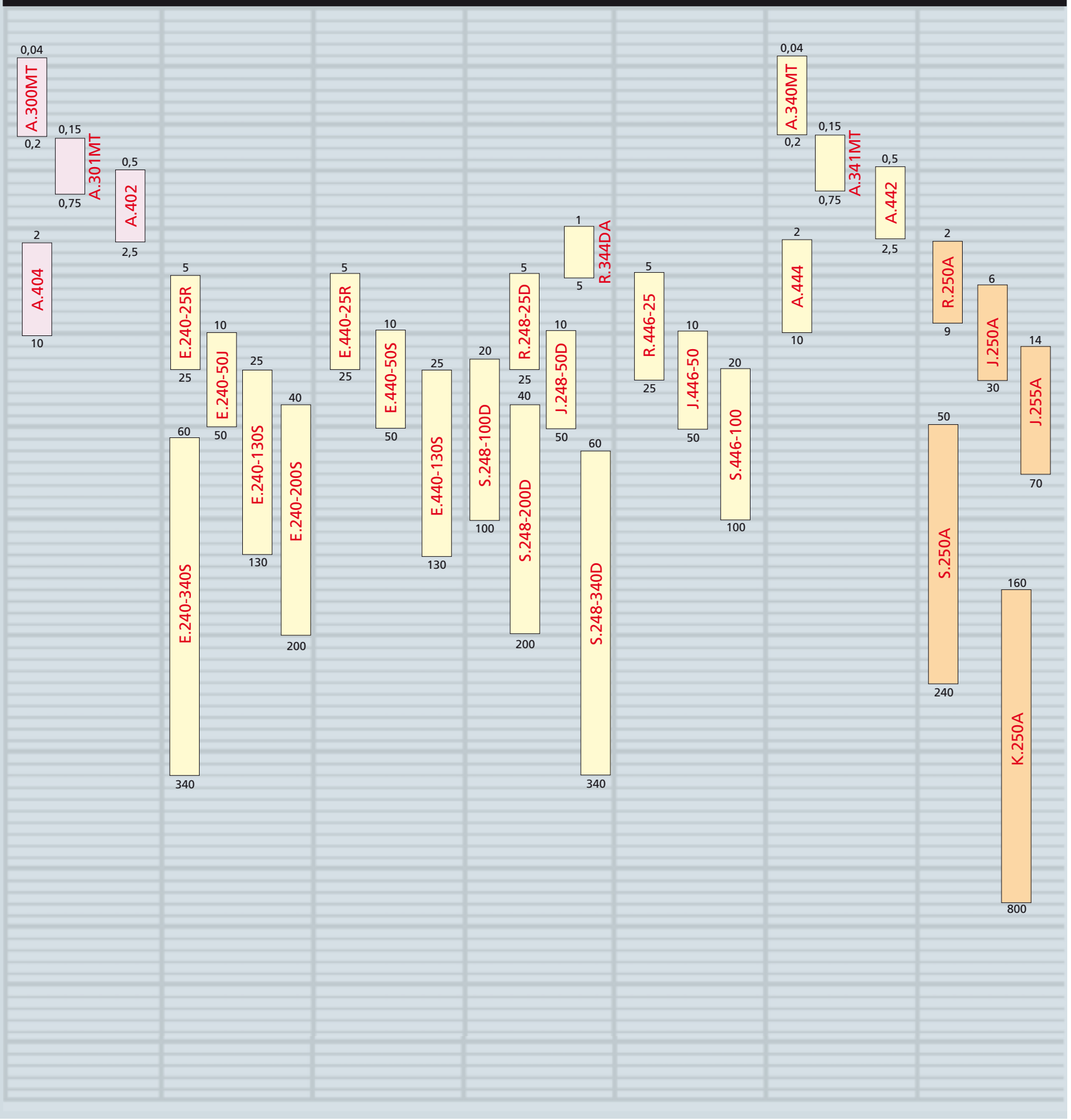
Selection guide

③ Choose its characteristics
(Number of cycles, accuracy, end fitting)

④ Choose the torque range

See the accessory selection guide on page 265

	NON VERNIER : REPETITIVE TIGHTENING TO THE SAME TORQUE					TORQUE READING ①
RELEASE	ELECTRONIC + TRACEABILITY		MECHANICAL		RELEASE	DIAL ②
	5° "CLICK"	20° "BREAK"	5° "CLICK"	20° "BREAK"		
100,000Cycles +/- 6 % ⎔ 4 mm, 1/4"	100,000 cycles. +/- 4 % 9x12, 14x18	100,000 cycles. +/- 4 % 9x12, 14x18	100,000 cycles. +/- 4 % 9x12, 14x18	50,000 cycles. +/- 8 % 9x12, 14x18,	100,000 cycles. +/- 6 % ⎔ 4 mm, 1/4"	20,000 cycles. +/- 4 % Fixed drive ③
						 ④
A.400 / A.300MT	E.240	E.440	248	446	A.440 / A.340MT	250



Torque control guide

Tightening torque and tensile load

- Application of the correct force (tensile load) is essential for a reliable assembly :
- under-tight fasteners can work loose.
- over-tight fasteners may distort components to be connected; , or shear the fastener.
- Tensile load depends on tightening torque applied to the fastener and the friction coefficient.

Tensile load (Fo)

The force in Newtons (N) which maintains pressure contact between assembled components.

Tightening torque (Cs)

The product of a force and the leverage length at which it is applied : Torque (N.m) = Force (in Newtons) x length (in metres).

Tightening torque table :

Torque values are given for 85 % fastener yield strength (documentation E 25-030).

1. Friction coefficient

Choose the appropriate table according to type of fasteners used (0.10, 0.15, or 0.20).
Example : μ = 0.10.

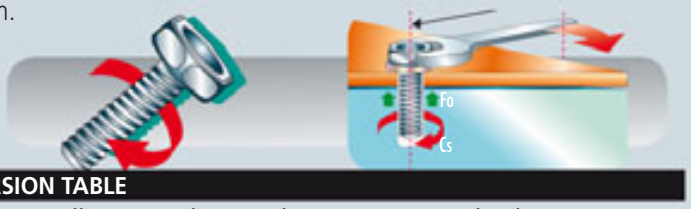
2. Fastener grade

The grade of a fastener denotes its quality (best is 12.9).

Check the appropriate column for the fasteners used.
Example : fastener dia. 10, fastener grade 8.8

3. Tightening torque (Cs).

Torque values are listed in Newton-meters (Nm) for each type of fastener. In the example given, the fastener would be tightened to a torque of 36 Nm.



CONVERSION TABLE

The internationally accepted unit is the Newton-metre (Nm).

1. To convert Nm

- Newton-metres to Kilogramme-force metres : 1 Nm = 0.102 kgf.m
- Newton-metres to Pound-force feet : 1 Nm = 0.738 lbf.ft
- Newton-metres to Pound-force inches : 1 Nm = 8.851 lbf.in
- Newton-metres to Ounce-force inches : 1 Nm = 141.61 ozf.in

2. To convert kgf.m

- Kilogramme-force metres to Newton-metres : 1 kgf.m = 9.81 Nm
- Kilogramme-force metres to Pound-force feet : 1 kgf.m = 7.23 lbf.ft
- Kilogramme-force metres to Pound-force inches : 1 kgf.m = 86.8 lbf.in

3. To convert lbf.ft

- Pound-force feet en Newton-metres : 1 lbf.ft = 1.35 Nm
- Pound-force feet to Kilogramme-force metres : 1 lbf.ft = 0.138 kgf.m
- Pound-force feet to Pound-force inches : 1 lbf.ft = 12 lbf.in

4. To convert lbf.in

- Pound-force inches to Newton-metres : 1 lbf.in = 0.1129 Nm
- Pound-force inches to Kilogramme-force metres : 1 lbf.in = 0.0115 kgf.m
- Pound-force inches to Pound-force feet : 1 lbf.in = 0.083 lbf.ft
- Pound-force inches to Ounce-force inches : 1 lbf.in = 16 ozf.in

μ = 0.10 *tightening torques for phosphated or galvanised fasteners with full lubrication (μ = average friction coefficient)*

ISO 272			Steel fastener grades to ISO 898-1													
			5,6		5,8		6,8		8,8*		9,8**		10,9		12,9	
d mm	ISO mm	mm	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo
1,6**	0,35	3,2	0,060	260	0,084	364	0,096	416	0,128	555	0,144	624	0,189	815	0,221	954
2**	0,40	4	0,126	432	0,177	604	0,202	690	0,270	921	0,303	1 036	0,396	1 352	0,463	1 582
2,5**	0,45	5	0,261	718	0,365	1 006	0,417	1 150	0,556	1 533	0,626	1 724	0,82	2 251	0,96	2 634
3	0,50	5,5	0,44	1 077	0,62	1 508	0,71	1 724	0,95	2 298	1,09	2 586	1,40	3 376	1,64	3 951
4	0,70	7	1,03	1 868	1,44	2 615	1,65	2 988	2,20	3 985	2,49	4 484	3,23	5 853	3,78	6 849
5	0,80	8	2,03	3 053	2,85	4 275	3,25	4 885	4,34	6 514	4,92	7 335	6,3	9 568	7,4	11 196
6	1	10	3,53	4 310	4,95	6 034	5,6	6 896	7,5	9 195	8,53	10 336	11	13 506	12,9	15 805
8	1,25	13	8,5	7 904	11,9	11 066	13,6	12 647	18,2	16 863	20,63	18 968	26	24 768	31	28 984
10	1,50	16	16,8	12 580	23	17 612	27	20 128	36	26 838	41	30 197	52	39 418	61	46 128
12	1,75	18	29	18 337	40	25 672	46	29 339	62	39 119	70	44 022	91	57 457	106	67 236
14	2	21	46	25 175	65	35 245	74	40 280	99	53 707	111	60 251	145	78 882	170	92 309
16	2	24	71	34 597	100	48 436	115	55 356	153	73 808	173	83 165	225	108 406	263	126 858
18	2,5	27	99	42 094	139	58 932	159	67 351	220	92 440			313	131 897	366	154 348
20	2,5	30	140	54 059	196	75 682	225	86 494	311	119 003			440	169 385	515	198 216
22	2,5	34	192	67 511	269	94 515	307	108 017	424	148 374			602	211 534	704	247 540
24	3	36	241	77 845	338	108 983	387	124 552	534	171 437			758	243 914	887	285 432
27	3	41	355	102 393	498	143 350	569	163 829	784	225 110			1 114	320 832	1 304	375 442
30	3,5	46	483	124 491	677	174 287	773	199 185	1 067	274 030			1 515	390 072	1 773	456 467
33	3,5	50	653	155 083	915	217 116	1 046	248 132	1 442	341 347			2 048	485 926	2 397	568 637
36	4	55	841	182 032	1 177	254 845	1 346	291 252	1 855	400 571			2 636	570 369	3 085	667 453
39	4	60	1 088	218 667	1 523	306 135	1 741	349 868	2 399	481 158			3 410	685 159	3 990	801 782
42**	4,5	65	1 348	250 311	1 887	350 435	2 156	400 497	2 965	550 683			4 223	784 306	4 941	917 805
45**	4,5	70	1 681	292 970	2 353	410 158	2 690	468 752	3 698	644 534			5 267	917 973	6 164	1 074 223
48**	5	75	2 032	329 254	2 845	460 956	3 251	526 807	4 470	724 359			6 367	1 031 663	7 450	1 207 265
52**	5	80	2 608	395 006	3 651	553 008	4 172	632 009	5 737	869 013			8 171	1 237 685	9 562	1 448 354
56**	5,5	85	3 255	456 159	4 557	638 622	5 208	729 854	7 161	1 003 549			10 199	1 429 298	11 935	1 672 582
60**	5,5	90	4 032	532 893	5 645	746 050	6 451	852 629	8 871	1 172 365			12 634	1 669 732	14 785	1 953 941
64**	6	95	4 856	602 793	6 798	843 911	7 769	964 470	10 683	1 326 146			15 215	1 888 753	17 805	2 210 243

Grade 8-8a up to d=16 mm, 8-8b above d=118 mm

Torque control guide (continued)

μ = 0.15 *tightening torques for coated or bright fasteners fitted dry (μ = average friction coefficient)*

ISO 272			Steel fastener grades to ISO 898-1													
			5,6		5,8		6,8		8,8*		9,8**		10,9		12,9	
d mm	ISO mm	mm	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo
1,6**	0,35	3,2	0,075	234	0,105	327	0,120	374	0,160	499	0,180	561	0,235	732	0,275	857
2**	0,40	4	0,159	388	0,222	544	0,254	621	0,339	829	0,381	932	0,498	1 217	0,582	1 424
2,5**	0,45	5	0,330	648	0,463	907	0,529	1 036	0,705	1 382	0,793	1 555	1,04	2 030	1,21	2 375
3	0,50	5,5	0,57	972	0,80	1 362	0,91	1 556	1,21	2 075	1,38	2 335	1,79	3 048	2,09	3 567
4	0,70	7	1,30	1 685	1,83	2 359	2,09	2 696	2,78	3 594	3,16	4 044	4,09	5 279	4,79	6 178
5	0,80	8	2,59	2 759	3,62	3 862	4,14	4 414	5,5	5 886	6,27	6 626	8,1	8 645	9,5	10 116
6	1	10	4,49	3 891	6,2	5 448	7,1	6 226	9,5	8 302	10,84	9 334	14,0	12 194	16,4	14 269
8	1,25	13	10,9	7 145	15,2	10 003	17,4	11 432	23	15 242	26,34	17 146	34	22 388	40	26 198
10	1,50	16	21	11 379	30	15 930	34	18 206	46	24 275	52	27 313	67	35 655	79	41 724
12	1,75	18	37	16 594	52	23 231	59	26 550	79	35 401	90	39 835	116	51 995	136	60 845
14	2	21	59	22 789	83	31 905	95	36 463	127	48 618	143	54 570	187	71408	219	83 563
16	2	24	93	31 385	130	43 939	148	50 216	198	66 955	224	75 422	291	98 340	341	115 079
18	2,5	27	128	38 123	179	53 373	205	60 998	283	83 746			402	119 454	471	139 787
20	2,5	30	182	49 039	254	68 655	291	78 463	402	107 941			570	153 657	667	179 811
22	2,5	34	250	61 326	350	85 857	400	98 123	552	134 806			783	192 157	917	224 865
24	3	36	313	70 616	438	98 863	500	112 986	691	155 489			981	221 266	1 148	258 928
27	3	41	463	93 042	649	130 259	741	148 868	1 022	204 577			1 452	291 534	1 700	341 157
30	3,5	46	628	113 045	880	158 263	1 005	180 872	1 387	248 811			1 969	354 209	2 305	414 500
33	3,5	50	854	141 009	1 195	197 412	1 366	225 614	1 884	310 343			2 676	441 828	3 132	517 033
36	4	55	1 096	165 409	1 534	231 573	1 754	264 655	2 418	363 974			3 435	518 282	4 020	606 501
39	4	60	1 424	198 910	1 994	278 474	2 279	318 257	3 139	437 669			4 463	623 253	5 223	729 339
42**	4,5	65	1 760	227 588	2 464	318 624	2 816	364 141	3 872	500 694			5 515	713 110	6 453	834 491
45**	4,5	70	2 203	266 613	3 085	373 258	3 525	426 580	4 847	586 548			6 903	835 386	8 079	977 579
48**	5	75	2 659	299 530	3 722	419 342	4 254	479 248	5 849	658 966			8 330	938 528	9 748	1 098 277
52**	5	80	3 425	359 684	4 795	503 558	5 480	575 495	7 335	791 306			10 731	1 127 011	12 558	1 318 843
56**	5,5	85	4 270	415 172	5 978	581 240	6 832	664 275	9 394	913 378			13 379	1 300 871	15 656	1 522 296
60**	5,5	90	5 306	485 416	7 428	679 583	8 490	776 666	11 673	1 067 916			16 625	1 520 971	19 455	1 779 860
64**	6	95	6 382	548 969	8 935	768 556	10 212	878 350	14 041	1 207 731			19 998	1 720 102	23 402	2 012 885

μ = 0.20 *tightening torques for black or galvanised fasteners with minimal lubrication (as supplied) (μ = AVERAGE friction coefficient)*

ISO 272			Steel fastener grades to ISO 898-1													
			5,6		5,8		6,8		8,8*		9,8**		10,9		12,9	
d mm	ISO mm	mm	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo
1,6**	0,35	3,2	0,086	210	0,120	294	0,137	335	0,183	447	0,206	503	0,269	657	0,315	769
2**	0,40	4	0,183	349	0,256	488	0,293	558	0,390	744	0,439	837	0,573	1 093	0,671	1 279
2,5**	0,45	5	0,383	582	0,536	815	0,612	931	0,816	1 242	0,918	1 397	1,20	1 824	1,40	2 134
3	0,50	5,5	0,66	874	0,92	1 224	1,06	1 399	1,41	1 866	1,60	2 099	2,07	2 740	2,43	3 207
4	0,70	7	1,51	1 514	2,11	2 120	2,42	2 422	3,22	3 230	3,66	3 635	4,74	4 744	5,5	5 552
5	0,80	8	3,00	2 481	4,20	3 473	4,81	3 970	6,4	5 293	7,27	5 958	9,4	7 774	11,0	9 098
6	1	10	5,2	3 498	7,2	4 893	8,3	5 598	11,1	7 464	12,57	8 392	16,3	10 962	19,1	12 828
8	1,25	13	12,6	6 426	17,7	8 997	20	10 283	27	13 710	30,62	15 423	39	20 137	46	23 565
10	1,50	16	25	10 238	35	14 334	40	16 382	53	21 843	61	24 575	78	32 082	92	37 542
12	1,75	18	43	14 934	60	20 908	69	23 895	92	31 860	105	35 849	136	46 795	159	54 760
14	2	21	69	20 514	97	28 719	111	32 822	148	43 763	167	49 142	218	64 277	255	75 218
16	2	24	108	28 280	152	39 592	174	45 248	232	60 331	262	67 944	341	88 611	399	103 694
18	2,5	27	149	34 324	209	48 054	239	54 919	330	75 421			469	107 549	549	125 856
20	2,5	30	213	44 188	298	61 863	341	70 700	471	97 253			667	138 456	781	162 023
22	2,5	34	293	55 298	411	77 418	470	88 478	648	121 574			920	173 269	1 077	202 762
24	3	36	366	63 630	513	89 083	586	101 809	809	140 084			1 148	199 376	1 343	233 313
27	3	41	544	83 910	762	117 474	871	134 257	1 201	184 517			1 706	262 920	1 997	307 672
30	3,5	46	737	101 914	1 032	142 679	1 180	163 062	1 628	224 292			2 311	319 331	2 704	373 685
33	3,5	50	1 004	127 210	1 406	178 094	1 607	203 536	2 216	279 953			3 148	398 593	3 684	466 438
36	4	55	1 288	149 174	1 803	208 844	2 060	238 679	2 840	328 236			4 036	467 413	4 723	546 973
39	4	60	1 677	179 487	2 348	251 282	2 683	287 179	3 697	394 919			5 255	562 393	6 150	658 119
42**	4,5	65	2 070	205 323	2 898	287 452	3 312	328 516	4 554	451 710			6 486	643 344	7 590	752 849
45**	4,5	70	2 596	240 641	3 635	336 897	4 154	385 025	5 712	529 410			8 136	754 008	9 520	882 350
48**	5	75	3 130	270 321	4 383	378 449	5 009	432 514	6 887	594 706			9 809	847 006	11 478	991 177
52**	5	80	4 041	324 763	5 657	454 668	6 465	519 620	8 889	714 478			12 661	1 017 590	14 816	1 190 797
56**	5,5	85	5 034	374 739	7 048	524 635	8 054	599 582	11 075	824 426			15 773	1 174 182	18 458	1 374 043
60**	5,5	90	6 266	438 337	8 772	613 672	10 026	701 340	13 785	964 342			19 634	1 373 457	22 976	1 607 237
64**	6	95	7 533	495 676	10 546	693 947	12 052	793 082	16 572	1 090 488			23 603	1 553 119	27 620	1 817 480

** Grade 8-8a up to d=16 mm, 8-8b above d=118 mm*

Cofrac services provided by Facom

FACOM'S COFRAC-ACCREDITED LABORATORY IS YOUR PARTNER

- *For accurate torquing.*
- *For calibrating and regularly checking your tools in accordance with ISO requirements.*
- *For mutually recognised validity of tool calibration and inspection with European and other countries based on multilateral or bilateral recognition agreements (EA ; ILAC).*
- *For relating your tools back to the national and international (SI) system of units.*

1. Calibration certificate plus COFRAC declaration of conformity (3 or 10 points)

For FACOM graduated tools or other makes. Within the 0.04 Nm to 5000 Nm accreditation range according to ISO 6789.

- Direct reading torque wrenches (type 1)
  - Direct reading (type 1)
  - Vernier (type 2)
  - Electronic (type 1)

- Vernier torque drivers 0.04 Nm to 12 Nm

2. Setting to the required torque with Calibration certificate and COFRAC declaration of conformity (1 point)

Within the 0.04 Nm to 3000 Nm accreditation range according to ISO 6789

- Non-vernier click torque wrenches (type 2) 1 Nm to 350 Nm

- Non-vernier torque drivers 0.04 Nm to 12 Nm

3. Calibration certificate plus COFRAC declaration of conformity.

For FACOM torque testers (please consult us for other makes)
Within the 0.04 Nm to 5000 Nm accreditation range according to ISO 6789

- Electronic type E.4000 and E.5000
  - 0.1 Nm to 3,000 Nm

- Mechanical type CD
  - 12 Nm to 500 Nm

- Mechanical type CDS
  - 0.05 Nm to 12 Nm

Facom services

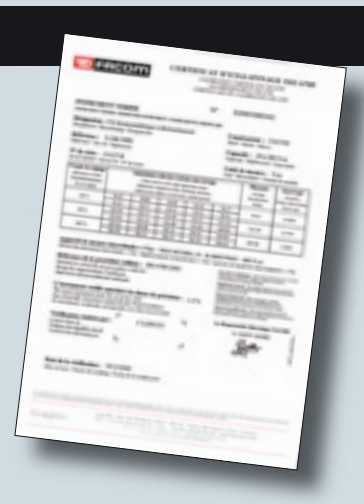
FACOM TORQUE CONTROL SERVICES

The Facom Laboratory is linked to the national calibration standards and provides the following services as required by ISO 6789 and its own quality assurance procedures :

1. Facom 3-point calibration certificate

According to ISO 6789 (3 points at 20 %, 60 %, 100 %)

- Torque wrenches 0.04 Nm to 3000 Nm
  - Direct reading
  - Vernier
  - Electronic
- Vernier torque drivers 0.04 Nm to 12 Nm



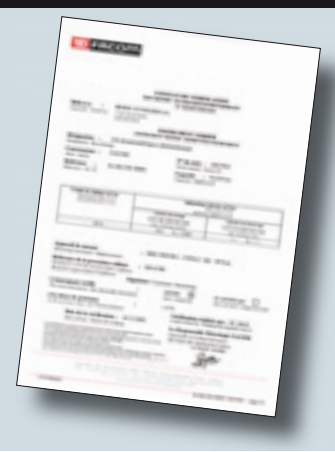
2. Facom 10-point calibration certificate

- Torque wrenches 0.04 Nm to 3000 Nm
  - Direct reading
  - Vernier
  - Electronic
- Vernier torque drivers 0.04 Nm to 12 Nm

3. Setting to the required torque plus Facom calibration certificate (1 point)

- Click torque wrenches (type 2) 0.04 Nm to 350 Nm

- Non-vernier torque drivers 0.04 Nm to 12 Nm



Additional services

COFRAC SERVICES PROVIDED BY FACOM

FACOM wrenches

Reference	Description	Measuring range
CVC.RJS	Calibration certificate plus COFRAC declaration of conformity (3 points). Facom graduated tools	0,04 N.m to 360 N.m
CVC.KM	Calibration certificate plus COFRAC declaration of conformity (3 points). Facom graduated tools	360 N.m to 3000 N.m
CEC10.RJS	COFRAC calibration certificate (10 points). Facom graduated tools	0,04 N.m to 360 N.m
CEC10.KM	COFRAC calibration certificate (10 points). Facom graduated tools	360 N.m to 3000 N.m
PRER.CO	Presetting plus Calibration certificate plus COFRAC declaration of conformity (1 point).	0,04 N.m to 3000 N.m
CEC11	COFRAC calibration certificate. Facom torque meter, 1 direction	0,04 N.m to 1000 N.m
CEC12	COFRAC calibration certificate. Facom torque meter, 2 directions	0,04 N.m to 1000 N.m
CEC21	COFRAC calibration certificate. Facom torque meter, 1 direction	1000 N.m to 5000 N.m
CEC22	COFRAC calibration certificate. Facom torque meter, 2 directions	1000 N.m to 5000 N.m
CEC31	COFRAC calibration certificate. Facom E.5000 torque meter, 1 direction	10 N.m to 1000 N.m
CEC32	COFRAC calibration certificate. Facom E.5000 torque meter, 2 directions	10 N.m to 1000 N.m

Non-FACOM wrenches

Reference	Description	Measuring range
CVCA1	Calibration certificate plus COFRAC declaration of conformity (3 points). Non-Facom graduated tools	0,04 N.m to 360 N.m
CVCA2	Calibration certificate plus COFRAC declaration of conformity (3 points). Non-Facom graduated tools	360 N.m to 3000 N.m
CEC10.A1	COFRAC calibration certificate (10 points). Non-Facom graduated tools	0,04 N.m to 360 N.m
CEC10.A2	COFRAC calibration certificate (10 points). Non-Facom graduated tools	360 N.m to 3000 N.m
PRER.CO	Presetting plus Calibration certificate plus COFRAC declaration of conformity (1 point).	0,04 N.m to 3000 N.m
CECA11	COFRAC calibration certificate. Non-Facom torque meter, 1 direction	0,04 N.m to 1000 N.m
CECA12	COFRAC calibration certificate. Non-Facom torque meter, 2 directions	0,04 N.m to 1000 N.m
CECA21	COFRAC calibration certificate. Non-Facom torque meter, 1 direction	1000 N.m to 5000 N.m
CECA22	COFRAC calibration certificate. Non-Facom torque meter, 2 directions	1000 N.m to 5000 N.m

FACOM SERVICES

FACOM wrenches

Reference	Description	Range of measurement
CEF3.RJS	3-point calibration certificate. FACOM graduated tools (ISO 6789)	0,04 N.m to 360 N.m
CEF3.KM	3-point calibration certificate. FACOM graduated tools (ISO 6789)	360 N.m to 3000 N.m
CEF10.RJS	10-point calibration certificate. FACOM graduated tools (Facom procedure)	0,04 N.m to 360 N.m
CEF10.KM	10-point calibration certificate. FACOM graduated tools (Facom procedure)	360 N.m to 3000 N.m
PRER.F	Presetting plus 1-point FACOM calibration certificate (ISO 6789)	0,04 N.m to 3000 N.m
RVSERT	Crimping plier inspection report (Facom procedure)	15 N.m to 380 N.m

Non-FACOM wrenches

Reference	Description	Range of measurement
CVA1	3-point calibration certificate. Facom graduated tools (ISO 6789)	0,04 N.m to 360 N.m
CVA2	3-point calibration certificate. Facom graduated tools (ISO 6789)	350 N.m to 3000 N.m

Series 306

"HIGH PERFORMANCE" click wrenches

ACCURATE, EVEN UNDER INTENSIVE USE

High performance

- *Intensive use : reliability of mechanism tested to 50,000 cycles.*
- *Durable accuracy : remains within ISO 6789 tolerances after more than 5,000 cycles.*
- *Accuracy set at +/- 2 % ex works.*

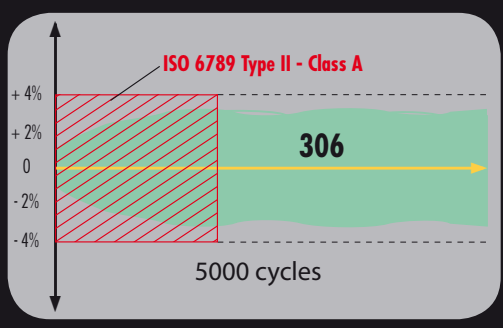
Safe

- *Accurate, tamper-proof vernier. Easy to read and set for error-free adjustment.*
- *Automatically locking torque adjustment. No risk of accidental release.*

Ergonomic

- *Ergonomic handle*
- *Increased length for improved torque transfer and accuracy.*
- *Hanging ring for storage.*

Performance exceeds
ISO 6789
ISO 6789 Type II - Class A



"High performance" click wrenches

306A Click wrenches with removable ratchet

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.
• Accuracy ex works : +/- 2 % except :
- R.306-25D, K.315DA, K.325DA : +/- 4 %.
- R.304DA : +/- 6 %.
• Reliability of mechanism : 50,000 cycles (wrenches to 200 Nm).
• For use with 9x12, 14x18 and ∅ 30 mm.
• One-way wrench convertible to two-way by inverting accessories.
• Numbered and supplied with an ISO 6789 calibration certificate.
• Set supplied in a plastic box with ratchet pivot handle (except R.306A25, R.301A).

	Capacity N.m	End fitting	Graduation N.m	Set contents			Dimensions wrench only		Dimensions including case		
				Wrench	Ratchet	Pivot knob	L (mm)	ΔΔ(kg)	Case	L (mm)	ΔΔ(kg)
R.301A	1-5	9 x 12	0,05	R.304DA	R.372	-	185	0,290	BP.102	205	0,58
R.306A25	5 - 25	9 x 12	0,10	R.306-25D	R.372	-	271	0,45	BP.D1	352	0,98
J.306A50	10 - 50	9 x 12	1,00	J.306-50D	J.372	S.305P	357	0,93	BP.D2	572	1,73
J.306A100	20 - 100	9 x 12	1,00	S.306-100D	J.372	S.305P	437	1,05	BP.D2	572	1,94
S.306A100	20 - 100	9 x 12	1,00	S.306-100D	S.372	S.305P	437	1,05	BP.D2	572	1,95
S.306A200	40 - 200	14 x 18	1,00	S.306-200D	S.382	S.305P	515	1,26	BP.D3	807	2,53
S.306A350	70 - 350	14 x 18	2,00	S.306-350D	S.382	S.305P	725	1,79	BP.D3	807	3,06
K.312A	120-600	14 x 18	2,00	K.315DA	K.382	-	990	5,160	BP.D600	1233	8,80
K.322	200-1000	Ø 30	4,00	K.325D	K.151A	-	1280	5,9	BP.D1000	1418	13,50

306D Click wrenches without accessories

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.
• Accuracy ex works : +/- 2 % except :
- R.306-25D, K.315DA, K.325DA : +/- 4 %.
- R.304DA : +/- 6 %.
• Reliability of mechanism : 50,000 cycles (wrenches to 200 Nm).
• For use with 9x12, 14x18 or ∅ 30 mm.
• One-way wrench convertible to two-way by inverting accessories.
• Numbered and supplied with an ISO 6789 calibration certificate.
• Supplied in a plastic box.

	Capacity N.m	End fitting	Graduation N.m	Dimensions wrench only		Dimensions including case		
				L (mm)	ΔΔ(kg)	Case	L (mm)	ΔΔ(kg)
R.304DA	1-5	9 x 12	0,05	185	0,290	BP.102	205	0,50
R.306-25D	5-25	9 x 12	0,10	271	0,45	BP.D1	352	0,90
J.306-50D	10-50	9 x 12	1,00	357	0,93	BP.D2	572	1,54
S.306-100D	20-100	9 x 12	1,00	437	1,05	BP.D2	572	1,75
S.306-200D	40-200	14 x 18	1,00	515	1,26	BP.D3	807	2,22
S.306-350D	70-350	14 x 18	2,00	725	1,79	BP.D3	807	2,75
K.315DA	120-600	14 x 18	2,00	945	4,6	BP.D600	1233	8,80
K.325DA	200 - 1000	∅ 30	4,00	1280	5,9	BP.D1000	1418	11,77

Click wrench with fixed ratchet

R.306-5

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.
- Accuracy ex works : +/- 6 %.
- Reliability of mechanism : 50,000 cycles.
- Compact wrench for confined spaces.
- 72-tooth ratchet (5° increments) for use with sockets.
- One-way wrench.
- Numbered and supplied with an ISO 6789 calibration certificate.

	Capacity N.m	◻	Graduation N.m	L mm	Dimensions including case L (mm)	Case	⚖ kg
R.306-5	1-5	1/4	0,05	197	205 x 120	BP.102	0,30

306R Click wrenches with 20x7 fitting

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.
- Accuracy ex works : +/- 2 %.
- Reliability of mechanism : 50,000 cycles (wrenches to 200 Nm).
- For use with 20x7 end accessories.
- One-way wrench convertible to two-way by inverting accessories.
- Numbered and supplied with an ISO 6789 calibration certificate.
- Supplied in a protective plastic tube.

	Capacity N.m	End fitting	Length mm	Graduation N.m	⚖ kg
S.306-100R	20-100	20 x 7	420	1	1,04
S.306-200R	40-200	20 x 7	510	1	1,30
S.306-350R	70-350	20 x 7	698	2	1,89

306U Click wrenches with dual lbf.in or lbf.ft and N.m graduation.

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.
- Accuracy ex works : ± 2 %.
- Reliability of mechanism : 50,000 cycles.
- Two-way wrenches graduated in lbf.in or lbf.ft and N.m.
- Reversible ratchet.
- All-metal wrench with knurled metal handle.
- Numbered and supplied with an ISO 6789 calibration certificate.
- Supplied in a plastic box (with ratchet).

	Capacity lbf.in	Capacity lbf.ft	End fitting	1 graduation lbf. in	1 graduation lbf.ft	Length mm	Case	◻ mm	⚖ kg
R.306U	40-200	-	9 x 12	1	-	285	BP.D1	1/4	0,46
J.306U	200-1000	-	9 x 12	5	-	379	BP.D2	3/8	1,05
S.306U	-	30-250	14 x 18	-	1	600	BP.D3	1/2	1,63

306 series wrench sets

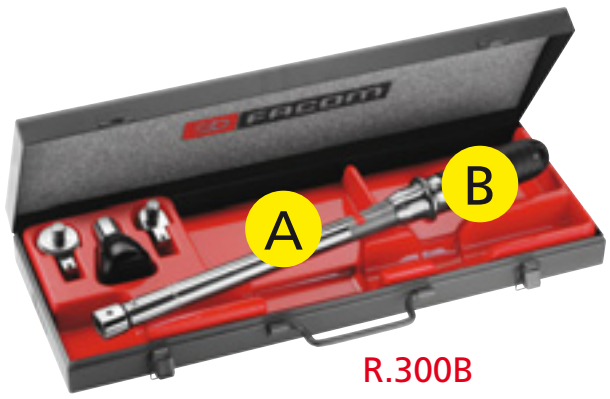
Set contents :

Each modular set comes in a steel case with one or two empty compartments that can each hold an additional module of sockets or other accessories.

Building a set

1. Check which size modules ("module" column) the set will take, e.g. S.300B takes 2 modules size C (C+C).

2. Choose modules of the correct size. For the S.300B, with 9 x 12 end fittings, one can choose e.g. S.300-2 and J.300-3 (both size C modules). See below.



R.300B

J.300B - J.310B - S.300B

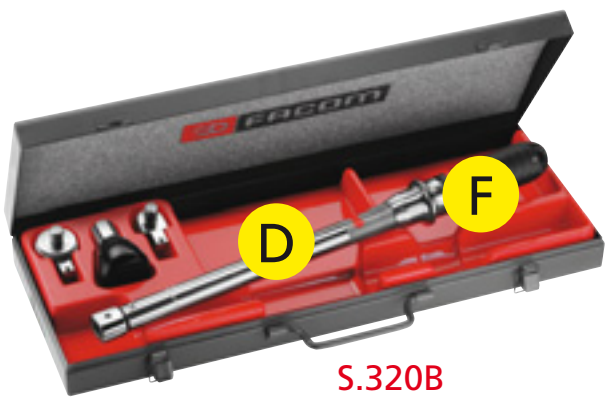
MODULES / mm	A 9 x 5 mm	B 14 x 5 mm	C 15 x 10 mm	
	R.300-1 ☑ 1/4" Sockets 7-8-10-11 13 mm R.209 ⚖ 150 g		J.300-1 ☑ 3/8" Sockets 10-11-13-15 16-17-18-19 J.210 ⚖ 540 g J.300-11 ☑ 3/8" Sockets 10-11-13-15 16-17-18-19 J.210 ⚖ 680 g	S.300-1 ☑ 1/2" Sockets 11-13-15-16 17-18-19-21-22 S.210 ⚖ 850 g S.300-11 ☑ 1/2" Sockets 16-17-18-19 21-22-24-27 S.210 ⚖ 980 g
		R.300-2 9 x 12 Open ends no. 10 : 11-13-15-16-17-18-19 mm ⚖ 350 g	J.300-2 9 x 12 Ring ends no. 12 : 10-11-13-15-16-17-18-19 mm ⚖ 380 g	S.300-2 9 x 12 Ring ends no. 12 : 11-13-15-16-17-18-19 mm ⚖ 350 g
		R.300-3 9 x 12 Ring ends no. 12 : 8-10-11-12-13 mm ⚖ 200 g	J.300-3 9 x 12 Open ends no. 10 : 11-13-15-16-17-18-19 mm ⚖ 380 g	S.300-3 9 x 12 Open ends no. 10 : 8-10-11-12-13 mm ⚖ 200 g
		R.300-4 ☑ 1/4" Hex. bits RT : 3-4-5-6 mm ⚖ 100 g	J.300-4 ☑ 3/8" Hex. bits JT : 5-6-8-10 mm ⚖ 190 g	S.300-4 ☑ 1/2" Hex bits ST : 6-8-10-12 mm ⚖ 330 g

300B Modular sets

• Contents of 300B series modular sets :
- 1 306D series wrench.
- 1 ratchet.
- 1 square drive.
- 1 pivot knob S.305P (except R.300B).
- 1 steel case with storage tray. (2 free compartments for modules).

	Capacity N.m	End fitting	Contents Wrench	Ratchet	Sq.end	Case	Tray	Case	☐ "	Module	⚖ kg
R.300B	5-25	9 x 12	R.306-25D	R.372	R.373	BP.115	PL.141A	322 x 128 x 50	1/4	A+B	1,5
J.300B	10-50	9 x 12	J.306-50D	J.372	J.373	BT.118	PL.140	470 x 175 x 55	3/8	C+C	3,1
J.310B	20-100	9 x 12	S.306-100D	J.372	J.373	BT.118	PL.137	470 x 175 x 55	3/8	C+C	3,3
S.300B	20-100	9 x 12	S.306-100D	S.372	S.373	BT.118	PL.137	470 x 175 x 55	1/2	C+C	3,3
S.310B	40-200	14 x 18	S.306-200D	S.382	S.383	BT.119	PL.138	625 x 175 x 55	1/2	C+E	4,4
S.320B	70-350	14 x 18	S.306-350D	S.382	S.383	BT.120	PL.139	770 x 175 x 55	1/2	D+F	5,3

S.310B



S.320B

MODULES / mm	E 28 x 10 mm	D 24 x 10 mm	F 39 x 10 mm
		S.300-21 ☐ 1/2" Sockets 17-18-19-21-22-24-27-30-32 mm S.210 ⚖ 1300 g	
	S.300-12 14 x 18 Open ends no. 11 : 16-17-18-19-21-22-24-27 mm ⚖ 1280 g	K.300-2 14 x 18 Open ends no. 11 : 22-24-27-30-32 mm ⚖ 1020 g	S.300-22 14 x 18 Open ends no. 11 : 17-18-19-21-22-24-27-30-32 mm ⚖ 1,580 g
	S.300-13 14 x 18 Ring ends no. 13 : 16-17-18-19-21-22 -24-27 mm ⚖ 1,140 g		S.300-23 14 x 18 Open ends no. 13 : 17-18-19-21-22-24-27-30-32 mm ⚖ 1,440 g K.300-3 14 x 18
	S.300-14 ☐ 1/2" Hex. bits ST : 8-10-12-14 mm ⚖ 400 g		S.300-24 ☐ 1/2" Hex bits ST : 8-10-12-14-17 mm ⚖ 540 g

Series 208

"MULTI-PURPOSE" click wrench

THE COMPACT WRENCH FOR ALL APPLICATIONS

Heavy-duty

- *reliability of mechanism tested to 25,000 cycles.*
- *Resistant to all hydrocarbons for use in garages or industrial environments.*

Compact

- *Shorter and lighter for working in congested spaces.*
- *Fixed ratchet version with a smaller head.*

Reliable

- *Accurate to within +/- 4 % in accordance with ISO 6789.*
- *Long-lasting accuracy.*
- *Double (coarse and fine) vernier adjustment*

ISO 6789 Type II - Class A

2 series :

- *With fixed ratchet*

- *With removable ratchet*

"Multi-purpose" click wrenches

208 Click wrenches with fixed ratchet

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.
- Accuracy : +/- 4 %.
- Reliability of mechanism : 25,000 cycles.
- 72-tooth ratchet (5° increments) for use with sockets.
- One-way wrench.
- Touch and sound signals on reaching preset torque.
- Automatic reset.
- Supplied with an ISO 6789 calibration certificate.
- Supplied in a protective plastic tube.

	Capacity N.m	☐ "	Graduation N.m	L mm	⚖ kg
R.208-25	5-25	1/4	0,1	300	0,50
J.208-50	10-50	3/8"	0,5	357	0,90
S.208-100	20-100	1/2"	1	416	1,04
S.208-200	40-200	1/2"	2	479	1,22
S.208-340	60-340	1/2"	2	632	1,54

208D Click wrenches without accessories

▷ ISO 6789.
- Accuracy : +/- 4 %.
- Reliability of mechanism : 25,000 cycles.
- 9x12 or 14x18 end fitting (for ratchets, ring ends and open ends).
- One-way wrench convertible to two-way by inverting accessories.
- Touch and sound signals on reaching preset torque.
- Automatic reset.
- Supplied with an ISO 6789 calibration certificate.
- Supplied in a protective plastic tube.

	Capacity N.m	End fitting	Graduation N.m	L mm	⚖ kg
J.208-50D	10-50	9x12	0,5	337	0,78
S.208-100D	20-100	9x12	1	396	0,92
S.208-200D	40-200	14x18	2	466	1,11
S.208-340D	60-340	14x18	2	618	1,43

208A Click wrenches with removable ratchet

▷ ISO 6789.
- Accuracy : +/- 4 %.
- Reliability of mechanism : 25,000 cycles.
- 9x12 or 14x18 end fitting (for ratchets, ring ends and open ends).
- One-way wrench convertible to two-way by inverting accessories.
- Touch and sound signals on reaching preset torque.
- Automatic reset.
- Supplied with an ISO 6789 calibration certificate.
- Supplied in a protective plastic tube (with ratchet).

	Capacity N.m	End fitting	Graduation N.m	Set contents Wrench	Ratchet	☐ "	L mm	⚖ kg
J.208A50	10-50	9x12	0,5	J.208-50D	J.372V	3/8"	337	0,78
S.208A100	20-100	9x12	1	S.208-100D	S.372V	1/2"	396	0,92
S.208A200	40-200	14x18	2	S.208-200D	S.382V	1/2"	466	1,11
S.208A340	60-340	14x18	2	S.208-340D	S.382V	1/2"	618	1,43

Series 203 Manual reset wrench

THE SIMPLE, HEAVY-DUTY WRENCH

Simple and Reliable

- Strong, dependable wrenches.
- Accurate to within +/- 6 % of the reading in accordance with ISO 6789.
- Numbered and supplied with a calibration certificate.

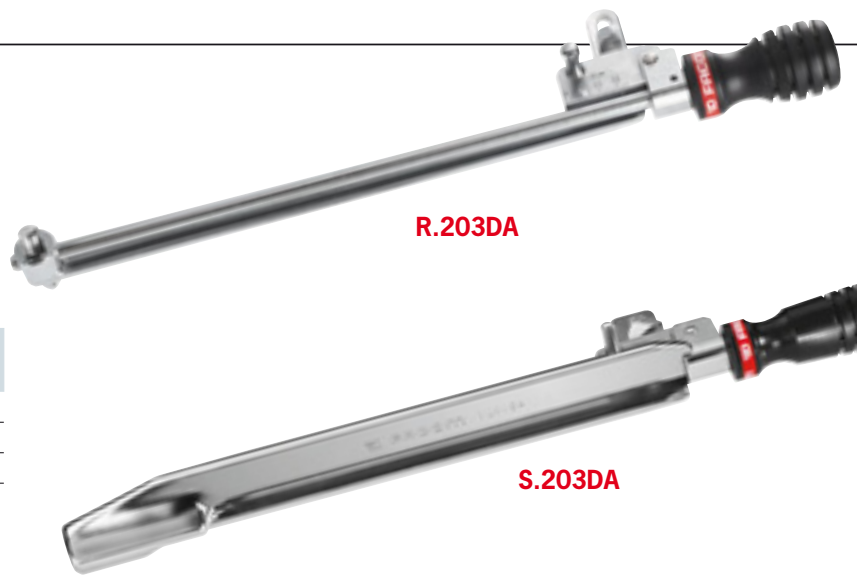
Triple signal

- Release of the rocker when preset torque is reached produces a triple visual, sensory and audible signal.
- Clear graduated scale ensures precise torque settings.
- Scale pointer movement helps to monitor torque increase.

Manual reset wrenches

203DA Manual reset wrenches

- Accuracy : +/- 4 %.
- Wrench R.203A graduated in Nm with fixed square drive
- Wrenches J.203A and S.203A graduated in daNm.



	Capacity daN.m	Case	Length mm	☐ "	1 graduation	⚖ kg
R.203DA	0,6 - 3,6	BP.D5	320	1/4	2,0 N.m	0,3
J.203DA	2,0 - 10,0	BP.D5	440	3/8	0,5 daN.m	0,8
S.203DA	4,0 - 20,0	BP.D5	460	1/2	1,0 daN.m	0,9

203A Manual reset wrenches with removable square drive

▷ ISO 6789, DIN EN 6789, NF EN ISO 6789.

- Accuracy : ± 6 % of reading.
- Wrench R.203A : graduated in Nm.
- Wrenches J.203A and S.203A graduated in daNm.
- Supplied in a plastic storage case with an ISO 6789 calibration certificate.

	Capacity daN.m	Clé	Sq.end Contents	Handle	Case	Length mm	☐ "	1 graduation	⚖ kg
R.203A	0,6-3,6	R.203DA		R.200P	BP.D5	320	1/4	2,0 N.m	0,40
J.203A	2,0-10,0	J.203DA	J.203E	S.200P	BP.D5	440	3/8	0,5 daN.m	0,95
S.203A	4,0-20,0	S.203DA	S.203E	S.200P	BP.D5	460	1/2	1,0 daN.m	1,00

202A Manual reset wrenches with removable ratchet

▷ ISO 6789.
• Accuracy : ± 6 % of reading.
• For ☐ 1/4" radio wrench, see R.203A.
• Supplied in a plastic storage case with an ISO 6789 calibration certificate.

	Capacity N.m	Resolution N.m	Contents Rachet Wrench	Contents Rachet	Case	Length mm	☐ "	kg
J.202A	2-10	0,5	J.203DA	J.152	BP.D5	460	3/8	1,00
S.202A	4-20	1,0	S.203DA	S.152	BP.D5	470	1/2	1,12

214A Extension for 203 series wrenches

• Two or three-fold capacity increase for wrenches J.203DA and S.203DA.
• For use with ratchets 152, end fittings 20 (SJ.214) and 3/4" drive sockets (K.214A).

	Capacity wrench	Length mm	kg
SJ.214	x2	400	0,68
K.214A	x3	860	3,00

205E Modular sets with sockets

▷ ISO 6789, DIN EN 6789, NF EN ISO 6789.
• Each set has a free compartment for an additional module of end accessories.
• See table page 274 for suitable end accessories.
• Supplied with knob R.200P (R.205E) , S.200P (J.205E, S.205E).
• Supplied with extension SJ.214, (except R.205E).
• Supplied in a grey metal box.

	Capacity daN.m	Contents Wrench	Contents Socket module	Case	Tray	mm	☐ "	Module	kg
R.205E	0,6 - 3,6	R.203DA	R.300.1	BT.112G	PL.142	380 x 158 x 50	1/4	B	1,35
J.205E	2 - 10	J.203DA	J.300.11	BT.118	PL.136	470 x 175 x 55	3/8	C	4,26
S.205E	4 - 20	S.203DA	S.300.11	BT.119	PL.135	625 x 175 x 55	1/2	E	4,70

Series 200 High-torque wrench

HIGH-TORQUE WRENCHES

Comfort of use

- Large dial.
- Separate Nm and lbf.ft scales.
- Accurate to within +/- 4 % of the reading in accordance with ISO 6789.
- Light signal on reaching preset torque.

Sturdy

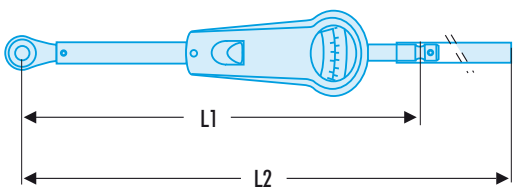
- Large round end fitting ∅ 30 mm.
- Optional use with jack or lifting gear.

High-torque wrenches

Wrenches with ratchet and square drive

▷ ISO 6789.

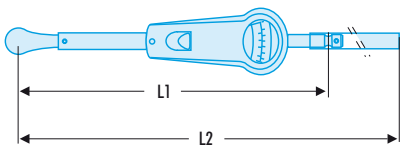
- Numbered and supplied with a calibration certificate.
- Set supplied in a metal case with storage tray 760 x 220 x 140 mm.



	Capacity		☐	Contents				Case	Tray	L1 - L2	⚖
	N.m	lbf.ft	"	Wrench	Ratchet	Sq.end	Handle			mm	kg
K.201B	180 - 900	150 - 650	3/4	K.200DB	K.151A	M.200E	K.200MA	BT.102	PL.549	595 - 1019	7,90
K.203B	300 - 1500	250 - 1100	3/4	K.200DB	K.151A	K.200E	K.202MA	BT.102	PL.549	595 - 1019	8,00
M.201B	500 - 2500	300 - 1800	1"	M.200DB	M.151	M.200EA	-	BT.102	PL.549	724	18,00

Wrenches with square drive

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.
• Numbered and supplied with a calibration certificate.
• Set supplied in a metal case with storage tray 760 x 220 x 140 mm.

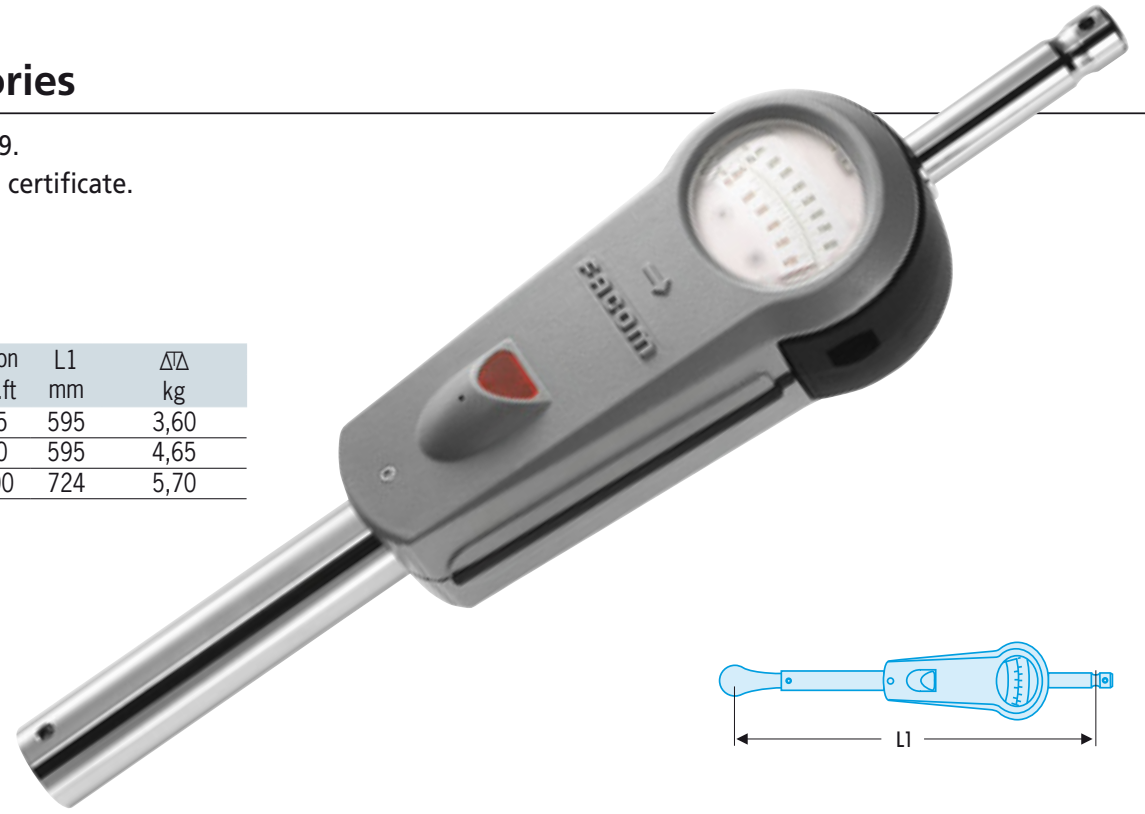


	Capacity		☐	Contents			Case	Tray	L1 - L2	⚖
	N.m	lbf.ft	"	Wrench	Sq.end	Handle			mm	kg
K.200B	180-900	150-650	3/4	K.200DB	M.200E	K.200MA	BT.102	PL.549	595-1019	6,20
K.202B	300-1500	250-1100	3/4	K.200DB	K.200E	K.202MA	BT.102	PL.549	595-1019	6,30
M.200B	500-2500	300-1800	1	M.200DB	M.200EA	-	BT.102	PL.549	724	13,00

Wrenches without accessories

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.
• Numbered and supplied with a calibration certificate.

	Capacity		1 graduation		L1	⚖
	N.m	lbf.ft	N.m	lbf.ft	mm	kg
K.200DB	180 - 900	150 - 650	25	25	595	3,60
K.202DB	300 - 1500	250 - 1100	50	50	595	4,65
M.200DB	500 - 2500	300 - 1800	100	100	724	5,70



Extension for wrench M.200DB

M.200M

• Telescopic handle gives up to 3m leverage including length of wrench.
• Complete with fasteners.
⚖ : 8.144 kg.

MC–NP series

Torque multipliers

FOR HIGH TIGHTENING AND LOOSENING TORQUES WITHOUT AN EXTERNAL POWER SOURCE

Type MC

- *Compact and lightweight for. awkward spaces.*
- *With stop lever*

Type NP

- *Input torque limiter to protect the mechanism.*
- *Non-return system for increased safety.*
- *Lifetime-lubricated mechanism for ease of maintenance.*
- *Supplied with two reaction arms, one straight and one offset.*

More accurate, safer and more compact

- *Slow, gentle torque application ensures improved accuracy.*
- *Reduced lever arm compared to a high-torque wrench ensures operator safety.*
- *Reduced size allows multipliers to be used where hightorque wrenches cannot reach.*

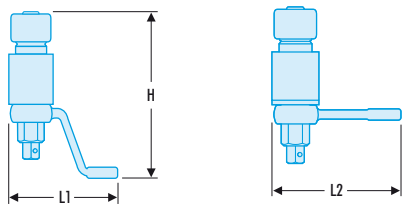
Torque multiplier

NP torque multiplier set

- Powerful tightening and loosening without external power source.
- Input torque limiter for safety.
- Non-return system.
- Torque multipliers are supplied in a case with the following accessories :

- offset reaction arm.
- straight reaction arm.

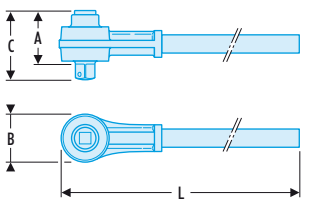
				L1 mm	H mm	L2 mm	Case L x l x h mm	kg
NP.120	NP.250JD	NP.250JC	S.151	200	260	260	370x200x160	6,430
NP.250	NP.250JD	NP.250JC	S.151	200	300	260	370x200x160	9,380
NP.400	NP.400JD	NP.400JC	S.151	270	420	350	440x250x160	19,250
NP.600	NP.400JD	NP.400JC	S.151	270	420	350	440x250x160	19,450



MC Torque multipliers

- Compact, lightweight models suitable for maintenance tasks.
- Supplied in a soft case with stop lever.

	⍁	■	Capacity N.m maxi	A x B x C x L mm	kg
MC.140A	1/2"	3/4"	1400	63 x 90 x 85 x 600	3,2
MC.270A	3/4"	1"	2700	80 x 95 x 113 x 680	5,1



Torque multiplier selection guide

Required input torque : *Input torque = output torque x multiplying factor*

Example : Specified tightening torque : 2000 Nm

Model NP.250 - Input torque = 2,000 x 0.088 = 176 Nm

	A "	B "	Demultiplication	Efficiency	Multiplying factor	Max. input torque Nm	Max. output torque Nm	L mm	Ø mm	kg
MULTIPLIER NP.120	1/2	3/4	1x4	0,87	0,287	340	1200	194	86	6,430
MULTIPLIER NP.250	1/2	1	1x16	0,71	0,088	216	2500	230	86	9,380
MULTIPLIER NP.400	1/2	1-1/2	1x64	0,50	0,032	130	4000	285	114	19,250
MULTIPLIER NP.600	1/2	1-1/2	1x64	0,50	0,032	190	6000	285	114	19,450
MULTIPLIER MC. 140A	1/2	3/4			0,294	412	1400	85	90	3.2
MULTIPLIER MC. 270A	3/4	1			0,294	794	2700	113	95	5.1

Safety first

WARNING : for your safety, use only impact grade sockets and accessories.
Always lock sockets with the appropriate pin and ring.
WARNING : Never use manual or pneumatic impact wrenches with this type of tool.

easotork

Electromechanical wrench
Series E.240 - Series E.440

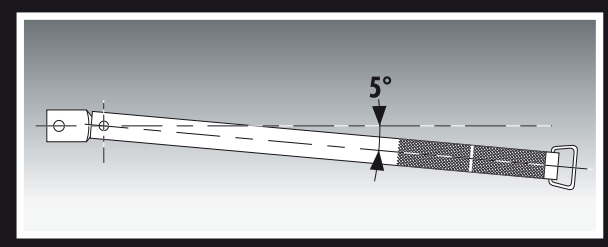
Electromechanical wrench with radio-frequency torque transmission.

High performance

- *Accurate to within +/- 4 % in accordance with ISO 6789.*
- *Long-lasting accuracy (more than 5,000 cycles).*
- *Intensive use : reliability of mechanism tested to 100,000 cycles.*

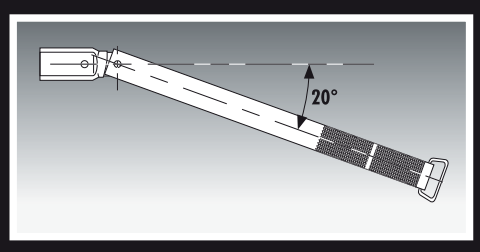
Safe

- *Non-graduated preset torque wrenches for production applications.*
- *Preset with a socket key and a torque meter, no risk of no risk of accidentally altering settings.*



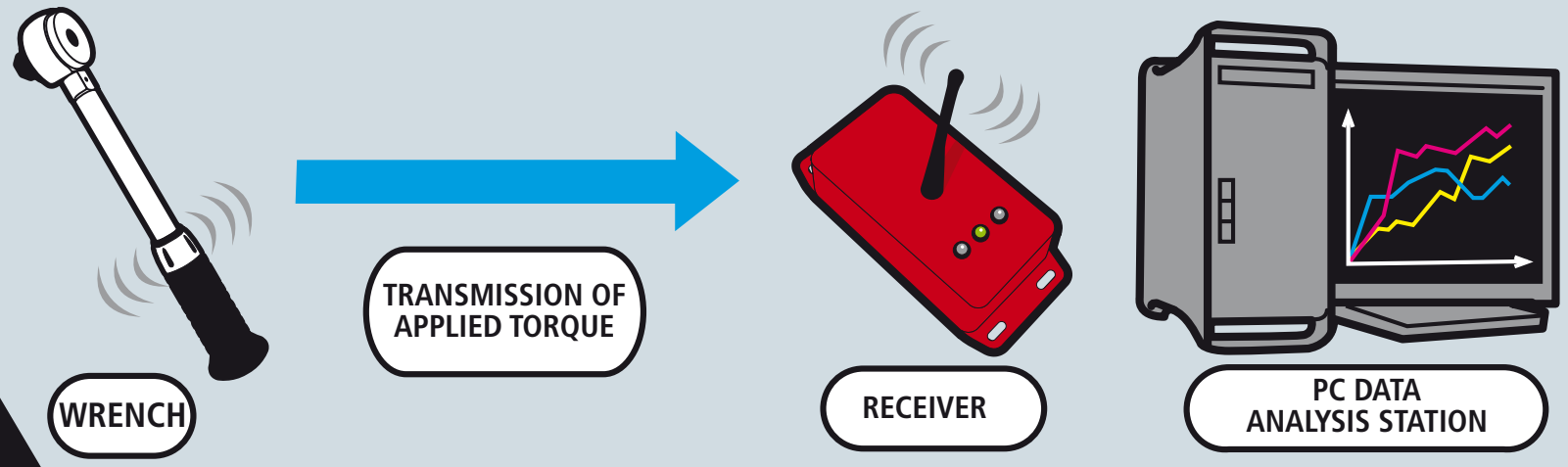
E.240 series

E.440 series



easotork

Identification of correct and incorrect torques



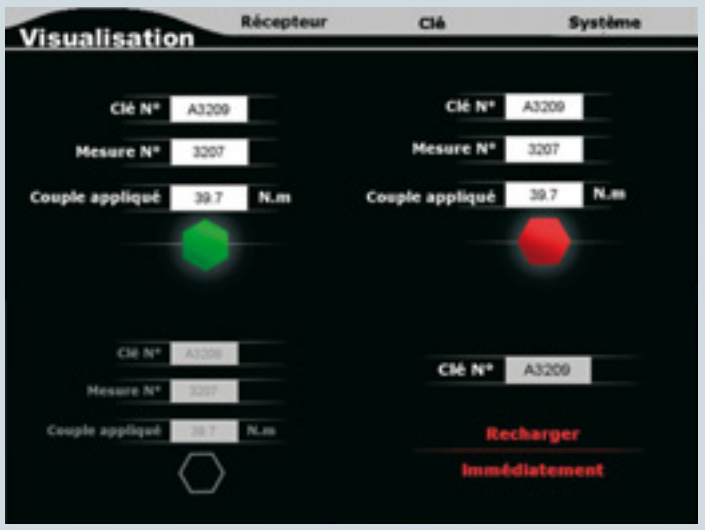
Total traceability of data

- All torques are recorded, the possibility of operator transcription error is eliminated.

Date	Time	Wrench ID	Torque No.	Actual applied torque	Torque	Overtorque
27/01/2007	09:56:08:03	E101156	53412	176,3	OK	No
27/01/2007	09:56:11:35	E101156	53413	181,1	OK	No
27/01/2007	09:56:13:88	E101156	53414	260	NoK	Yes
27/01/2007	09:56:16:42	E101156	53415	178,4	OK	No
27/01/2007	09:56:18:99	E101156	53416	179,5	OK	No
27/01/2007	09:56:21:30	E101156	53417	172,9	OK	No
27/01/2007	09:56:23:40	E101156	53418	178,6	OK	No
27/01/2007	09:56:25:49	E101156	53419	176,4	OK	No
27/01/2007	09:56:27:65	E101156	53420	197,9	NoK	No
27/01/2007	09:56:34:84	E120013	32635	442	NoK	Yes
27/01/2007	09:57:34:12	E120013	32636	250	OK	No
27/01/2007	09:59:51:07	E120013	32637	290	NoK	No
27/01/2007	09:59:53:58	E120013	32638	261,5	OK	No
27/01/2007	09:59:56:07	E120013	32639	231,5	OK	No
27/01/2007	10:00:25:03	E120013	32640	241,5	OK	No
27/01/2007	10:00:27:51	E120013	32641	248,7	OK	No
27/01/2007	10:00:29:94	E120013	32642	238,5	OK	No

Production process control

- LEDs on wrench for operator self-checking.
- Errors can be identified and corrected in real time.



- Simultaneous display of 4 receivers.
- LED colours shown on the screen.
- Readings recorded in an Excel file.
- Wrench, receiver and system settings are configured by. means of special password-protected menus.

Non-vernier adjustable wrenches with radio transmission

E.240 Easotork "click" type wrenches

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.
- Accuracy : +/- 4 %.
- Reliability : 100,000 cycles.
- Real-time radio transmission of applied torque.
- Preset tightening or loosening torque by inverting accessories.
- Non-vernier wrench : preset on a test rig using a socket key, see torque tester range.
- Numbered and supplied with an ISO 6789 calibration certificate.
- Supplied in a plastic box.

	Capacity	Attachement	Dimensions wrench only		Dimensions including case		
	N.m		L (mm)	ΔΔ(kg)	Case	L (mm)	ΔΔ(kg)
E.240-25R	5-25	9x12	347	0,75	BP.D2	585	1,37
E.240-50J	10-50	9x12	417	0,95	BP.D2	585	1,57
E.240-130S	25-130	9x12	450	1,06	BP.D2	585	1,68
E.240-200S	40-200	14x18	515	1,31	BP.D3	805	2,35
E.240-340S	60-340	14x18	587	1,49	BP.D3	805	2,53

	Description
E.240-BAT	Replacement battery kit

E.440 Easotork wide-angle "break" type wrenches

▷ ISO 6789.
- Accuracy : +/- 4 %.
- Reliability : 100,000 cycles.
- Real-time radio transmission of applied torque.
- Preset tightening or loosening torque by inverting accessories.
- Non-vernier wrench : preset on a test rig using a socket key, see torque tester range.
- Numbered and supplied with an ISO 6789 calibration certificate.
- Supplied in a plastic box.

	Capacity	Attachement	Dimensions wrench only		Dimensions including case		
	N.m		L (mm)	ΔΔ(kg)	Case	L (mm)	ΔΔ(kg)
E.440-25R	5-25	9x12	340	0,71	BP.D2	585	1,33
E.440-50J	10-50	9x12	366	0,78	BP.D2	585	1,40
E.440-130S	25-130	9x12	463	1,07	BP.D3	805	2,13

	Description
E.240-BAT	Replacement battery kit

Radio receiver and USB cable

E.240-REC

- Frequency 869 MHz.
- Very sturdy aluminium casing.
- USB, RS232 and PLC outputs.
- For RS232 and PLC output (use receiver power supply E.240.ALI).
- Supplied in a plastic case complete with USB cable and socket key for presetting E.240 and E.440.

	Sizes	ΔΔ g
E.240-REC	230 x 210 x 75 mm	790

	Description
E.240-ALI	Receiver power supply

Calibration software and cable

E.240-CAL

- Windows XP easotork software.
- PC and wrench connection cables.
- Wrench configuration and calibration unit.
- Supplied in plastic case.
- Power supply 9 V battery.

	Sizes	⚖ g
E.240-CAL	230 x 210 x 75 mm	830

Wrench charger

E.240-CHA

- Charger for E.240 and E.440 easotork wrenches.
- 8 V 0.35 mA.

	Sizes	⚖ g
E.240-CHA	160 x 130 x 65 mm	310

Initial equipment kit

E.240-KIT1

- Contains :
- E.240-REC.
- E.240-CAL.
- E.240-CHA.
- Receiver and USB cable
- Calibration software and cable
- 1 wrench charger

⚖ : 1,930 g.

Additional equipment kit

E.240-KIT2

- Contains :
- E.240-REC.
- E.240-CHA.
- Receiver and USB cable
- 1 wrench charger

⚖ : 1,100 g.

248 and 446 series

"NON GRADUATED" : ADJUSTABLE WRENCHES

COMPACT, DURABLE PRODUCTION WRENCHES

Durable

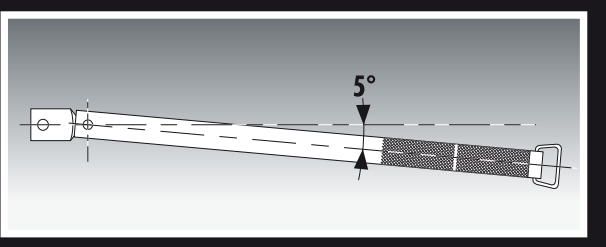
- *For intensive and repetitive use, tested to over 100,000 cycles.*

Compact and lightweight

- *Shorter and more compact for working in confined spaces.*
- *Reduced weight for increased comfort when performing intensive tasks.*

Safe

- *Non-graduated preset torque wrenches for production applications.*
- *Preset with a hex key and a torque meter, no risk of no risk of accidentally altering settings.*
- *Touch and sound signals on release : can be used in noisy and poor visibility conditions.*

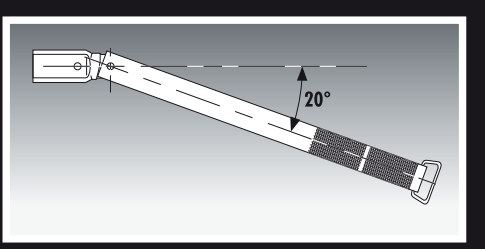


- *5° release angle*
- *9x12 and 14x18 end fittings*
- *Accuracy : ± 4 %.*

Series 248

Series 446

- *Wide (20°) release angle*
- *20x7 end fitting*
- *Accuracy : ± 8 %.*



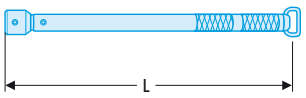
"Non-vernier" adjustable wrenches

248D Non-vernier adjustable "click" wrenches

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Accuracy : +/- 4 %.
- Proven reliability : 100,000 cycles.
- 9x12 or 14x18 end fittings
- Preset tightening or loosening torques.
- Preset on a test rig using a hex key, see torque tester range.
- Knurled metal handle, optional plastic handle resistant to aggressive hydrocarbons such as Skydrol or Hy-jet, etc.
- Numbered and supplied with an ISO 6789 calibration certificate, packaged in a protective plastic tube.

	Capacity N.m	Capacity lbf.in	Capacity lbf.ft	End fitting	L mm	kg
R.344DA	1-5	10-50		9x12	200	0,24
R.248-25D	5-25	45-220		9X12	250	0,28
J.248-50D	10-50	90-440		9x12	331	0,74
S.248-100D	20-100		15-74	9x12	399	0,88
S.248-200D	40-200		30-148	14x18	464	1,08
S.248-340D	60-340		44-250	14X18	618	1,40

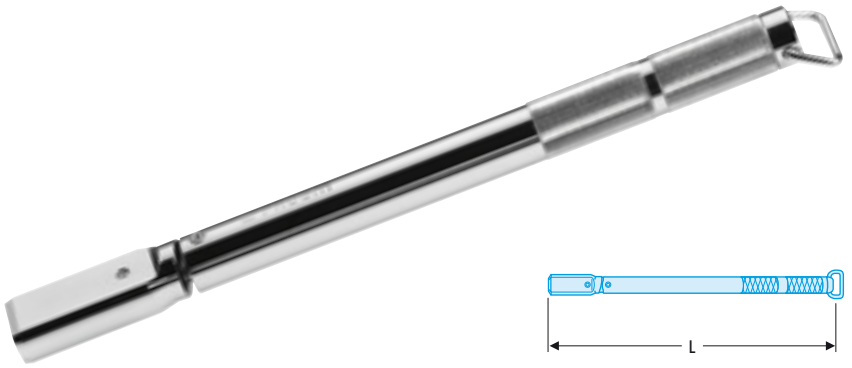


	Description
R.345P	Handle for R.248-25D
S.345P	Handle for J.248-50D or S.248-100D, 200D, 340D

446 Non-vernier adjustable wide-angle "break" wrenches

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Accuracy : +/- 8 %.
- Proven reliability : 50,000 cycles.
- 9x12 or 20x7 end fittings.
- Preset with a torque meter, see torque tester range.
- Supplied with an ISO 6789 calibration certificate.
- Packaged in a protective plastic tube.



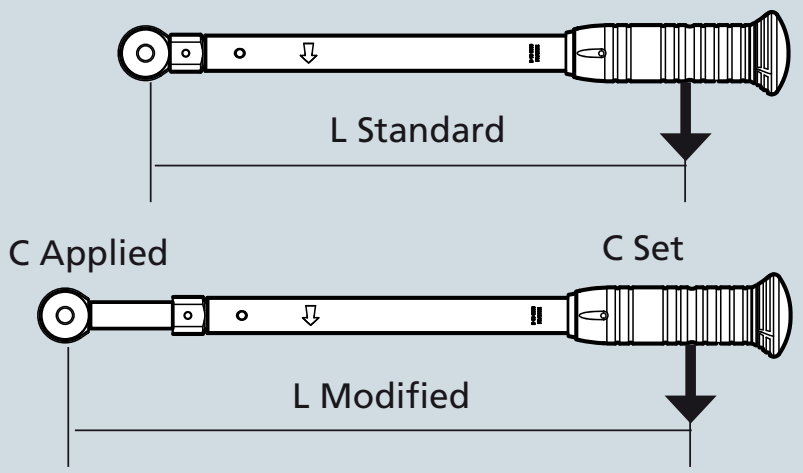
	Capacity N.m	End fitting	☐ "	L mm	kg
R.446-25	5 - 25	9 x 12	1/4	214	0,38
J.446-50	10 - 50	20 x 7	3/8	279	0,49
S.446-100	20 - 100	20 x 7	1/2	407	0,84

Calculating the correction factor

If a non-standard or crowfoot accessory is used, the applied torque will not correspond to the set value.

Applied torque =

Set torque x $\frac{\text{L Modified}}{\text{L Standard}}$



250A series Indicating torque wrench

The two-way indicating wrench for checking your fasteners

Easy to read

- Large dial.
- Separate Nm and lbf.ft scales.
- Two-way operation.
- Accuracy : ± 4 % of reading in accordance with ISO 6789.

Light signal / pointer

- Wrench K.250A fitted with visible (light) and audible (buzzer) indicators.
- Wrenches R, J, S and K fitted with reference pointer.

Dial indicating torque wrenches

250A Indicating wrenches

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Supplied with an ISO 6789 calibration certificate.
- Supplied in a plastic storage case.

■ Accessories :

- Ratchet : J.156 for wrenches J.250A and J.255A, S.156 for wrench S.250A.
- "Crowfoot" ends ☐ 3/8".

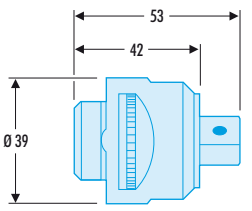
	Capacity			1 graduation			Length mm	☐ "	⚖ kg
	N.m	lbf.in	lbf.ft	N.m	lbf. in	lbf. ft			
R.250A	2-9	15-75	-	0,2	1	-	255	1/4	0,46
J.250A	6-30	50-250	-	0,5	5	-	255	3/8	0,47
J.255A	14-70	120-600	-	2,0	10	-	380	3/8	0,87
S.250A	50-240	-	35-175	5,0	-	5	570	1/2	1,30
K.250A	160-800	-	120-600	20,0	-	10	1185	3/4	4,12

3/8" ratchet attachment

J.156

- 5° increments.
- Satin chrome finish.

⚖ : 200g.

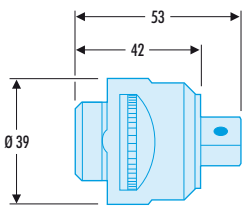


1/2" ratchet attachment

S.156

- Female 1/2" square drive
- Male 1/2" square drive
- 5° increments.

⚖ : 230 g.



Release-type torque drivers

A.400 and A.300MT Series

RELEASE TYPE TORQUE DRIVERS

AN ACCURATE, DURABLE LOW-TORQUE TOOL

Reliable, high performance

- *Reliability of mechanism tested over more than 50,000 operations.*
- *Accuracy exceeds ISO 6789 specified performance of ± 6 %.*
- *Automatic reset every 120°.*

Safe

- *Automatically releases upon reaching the specified torque, impossible to exceed the set value.*
- *Protected adjustment system : no risk of accidentally altering settings.*
- *Flattened profile prevents tool rolling on the work-top.*

Ergonomic

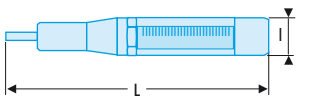
- *Clear, easy to read vernier.*
- *Ergonomic handle providing an excellent grip.*
- *Lightweight.*

ISO 6789 Type II - Class D - Class F

Release-type torque drivers

Micro-Tech® bit drivers

▷ ISO 6789.
• Reduced weight and size specifically designed for low torques.
• Clockwise operation.
• Hexagon socket drive for ∅ 4 mm bits (optional☐ 1/4" drive with adapter ECR.0).
• Supplied with calibration certificate and adjusting key.



	Capacity cN.m	Drive	1 graduation cN.m	Adjusting key	Suitable bits series	L mm	l mm	⚖ g
A.300MT	4 - 20	4 mm	0,05	82.4	0	96,5	21	75
A.301MT	15 - 75	1/4"	0,5	82.4	1	130,0	23	130

A.400 Driver with Vernier adjustment

▷ Exceeds ISO 6789 requirements.
• Class II type D (A.400 maintenance).
• One-way drivers, clockwise operation.
• Hexagon socket drive for ∅ 1/4".
• ECR ∅ 1/4" - ☐ 1/4" adaptor for optional sockets and accessories.
• Drive ☐ 1/4" on the handle for ratchet handle A.300PA.
• Supplied with calibration certificate, adjusting key and individual identification number.

	Torque	Graduation N.m	L mm	⚖ g
A.402	0.5 to 2.5 Nm	0,1	147	280
A.404	2 to 10 Nm	0,5	147	400

Drive socket adaptor

ECR.0

• adaptor for using ☐ 1/4" "radio" sockets with the A.300MT and A.340MT series screwdrivers.
• 4 mm hexagonal drive.
• Length 22 mm.
⚖ : 7 g.

Socket adaptor - ☐ 1/4" - ∅ 1/4"

ECR

• For using 1/4" sockets with drivers A.400, A.440, A.301MT and A.341MT.
• Length 25 mm.
⚖ : 15 g.

Attachable ratchet handle

A.300PA

• Ratchet handle gives more tightening power for repetitive work and high torques.
• Fits drivers with 0.50 to 10 N.m torque capacity.
• Max. torque : 30 N.m
⚖ : 85 g.

Micro-Tech® tool set

▷ ISO 6789.
• Case-set includes bits and adjusting key.
• Supplied with inspection report.

	Capacity N.m	Screwdriver	Adjusting key	Contents Bits⬬	Bits✪	BitsO	Dimensions mm	⚖ g
A.300MTJ1	4-20	A.300MT	82.4	1,8 - 2,5 mm	0,9 - 1,3 - 1,5 - 2 mm	PZ 0 - 1 - 2 mm	185X109X40	300
A.301MTJ1	15-75	A.301MT	82.4	4 - 4,5 - 5,5 mm	1,5 - 2,5 - 3 mm	PZ 0 - 1 mm	185x109x40	370

Driver bit set ∅ 1/4"

▷ Exceeds ISO 6789 requirements.
• Class II type D (A.400 maintenance).
• One-way drivers, clockwise operation.
• Hexagon socket drive for ∅ 1/4".
• Drive ☐ 1/4" on the handle for ratchet handle A.300PA.
• Supplied with inspection report, adjusting key and individual identification number.
• Case BP.102 and tray PL.436.

	Screwdriver	Contents Bit holder	Handle	Adjusting key	Bits⬬	BitsO	Bits✪ Bits✪
A.402J2	A.402	EF.1P4	A.300PA	A.402-20	4,5 - 6,5 - 8 mm	3 - 4 - 5 mm	PZ 1 - 2 - 3 mm
A.404J2	A.404	EF.1PA	A.300PA	A.404-20	4,5 - 6,5 - 8 mm	3 - 4 - 5 mm	PZ 1 - 2 - 3 mm

Socket set ☐ 1/4"

▷ Exceeds ISO 6789 requirements.
• Class II type D (A.400 maintenance).
• One-way drivers, clockwise operation.
• Hexagon socket drive for ∅ 1/4".
• ECR ∅ 1/4" - ☐ 1/4" adaptor for sockets and accessories.
• Drive ☐ 1/4" on the handle for ratchet handle A.300PA.
• Supplied with inspection report, adjusting key and individual identification number.
• Supplied with adaptor ECR, extensions R.210 and R.215.
• Case BP.115 and tray PL.434.

	Contents Screwdriver	Handle	Adjusting key	Socket
A.402J1	A.402	A.300PA	A402-20	R.3,2-4-5-5,5-6-7-8-9-10 mm
A.404J1	A.404	A.300PA	A404-20	R.3,2-4-5-5,5-6-7-8-9-10 mm

A.440 and A.340MT series non-vernier drivers

DRIVERS DESIGNED FOR PRODUCTION APPLICATIONS

Same characteristics as A.400 and A.300MT drivers

- No vernier adjustment, torque set with a torque-meter.
- Performance exceeds ISO 6789 requirements (± 6 % of the preset value).
- Handle release when required torque is reached, prevents inadvertent overtorquing
- Automatic reset every 120°.

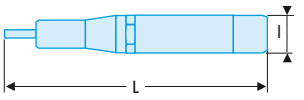
ISO 6789 Type II - Class D - Class F

Non-vernier release-type torque drivers

Micro-Tech® torque drivers

- Reduced weight and size specifically designed for low torques.
- One-way drivers supplied with adjusting key.
- Non-graduated drivers preset on a test rig.
- Hexagon socket drive for ∅ 4 mm bits (optional ☐ 1/4" drive with). adapter ECR.0).

	Capacity		Drive	Adjusting key	Suitable bits series	L mm	l mm	⚖ g
	cN.m	lbf.in						
A.340MT	4-20	0,35-1,7	4 mm	82.4	0	96,5	21	75
A.341MT	15-75	1,30-6,5	1/4"	82.4	1	130,0	23	130



A.440 Production driver

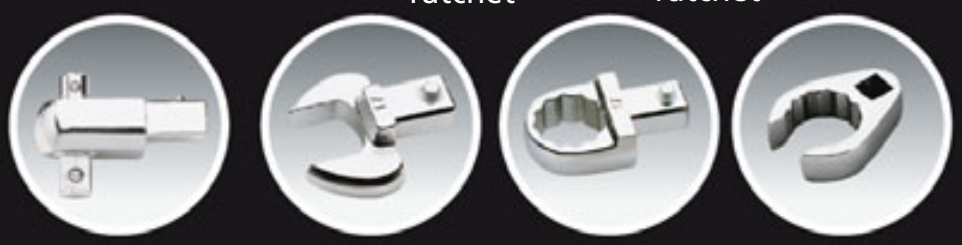
▷ Exceeds ISO 6789 requirements.
- Class II type F (A.440 production).
- One-way drivers, clockwise operation.
- Hexagon socket drive for ∅ 1/4".
- Drive ☐ 1/4" on the handle for ratchet handle A.300PA.
- Supplied with ISO 6789 calibration certificate, adjusting key and individual identification number.

	Torque	L mm	⚖ g
A.442	0.5 to 2.5 Nm	147	300
A.444	2 to 10 Nm	168	400

Accessories

7 types of accessory :

Pivot knob | Standard ratchet | Compact ratchet



Square drives | Open end | Ring end | "crowfoot" end

3 types of end fitting :

9X12 | 14X18 | 20X7

Wrench fitted with a ratchet J.372, a knob S.305P and a socket.

Torque accessories

① Choose your wrench or driver				② Choose the type of accessory					
306	208	200	203						
R.304DA - R.306-25D J.306-50D - S.306-100D R.306U - J.306U	J.208-50D S.208-100D			9 x12	J.372 S.372	R.372 J.372V S.372V	R.373 J.373 S.373	SERIES 10	SERIES 12
S.306-200D - S.306-350D S.306U - K.315DA	S.208-200D S.208-340D			14 x18	S.382	S.382V K.382A	S.383 K.383	SERIES 11	SERIES 13
K.325D		K.200DB K.202DB M.200DB		ø30		K.200DB K.202DB M.200DB	K.151A M.151		
S.306-100R S.306-200R S.306-350R			R.203DA J.203DA S.203A	20 x 7		J.152 S.152	J.203E S.203E	SERIES 20	

Vernier wrenches

E.240	E.440	248	446						
E.240-25R E.240-50J E.240-130S	E.440-25R E.440-50J E.440-130S	R.344DA R.248-25D J.248-50D S.248-100D	R.446-25	9 x12	J.372 S.372	R.372 J.372V S.372V	R.373 J.373 S.373	SERIES 10	SERIES 12
E.240-200S E.240-340S		S.248-200D S.248-340D		14 x18	S.382	S.382V K.382A	S.383 K.383	SERIES 11	SERIES 13
			J.446-50 S.446-100	20 x 7		J.152 S.152	J.203E S.203E	SERIES 20	

Non-vernier wrenches

A.400 A.300MT	A.440 A.340MT			
A.402 A.404	A.442 A.444	∅ 1/4	ECR	
A.300MT A.301MT	A.340MT A.341MT	∅ 4		ECR0

Screwdriver

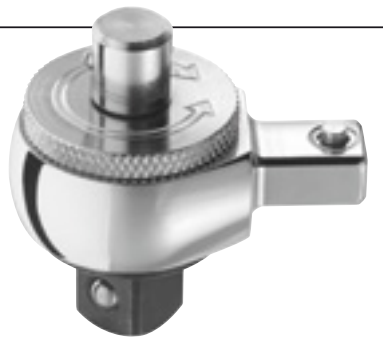
See the torque wrench and driver selection guide on page 265

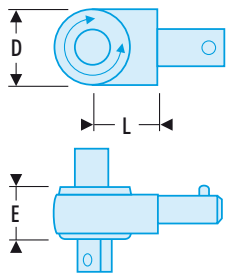
9 x 12 accessories

Ratchets

• For use with pivot knob S.305P.

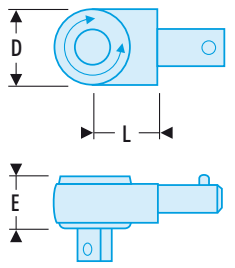
	Attachement	⍁ "	D mm	E mm	L mm	⍙ g
J.372	9X12	3/8	37	26	15	155
S.372	9X12	1/2	37	26	15	165





Compact ratchets

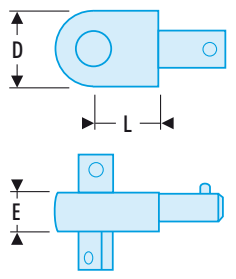
	Attachement	⍁ "	D mm	E mm	L mm	⍙ g
R.372	9X12	1/4	27	19	15	70
J.372V	9X12	3/8	37	26	15	140
S.372V	9X12	1/2	37	26	15	150



Square drives

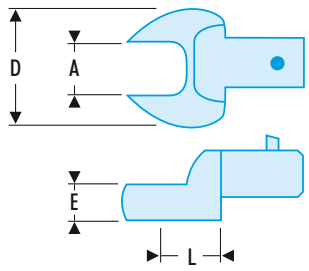
• For use with pivot knob S.305P, except model R.373.

	Attachement	⍁ "	E mm	D mm	L mm	⍙ g
R.373	9X12	1/4	14	23	15	55
J.373	9X12	3/8	17	26	15	85
S.373	9X12	1/2	17	26	15	100



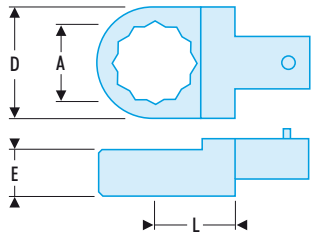
10 Open ends

	A "	E mm	D mm	L mm	⍙ g
10.7	10.1/4	5	19	15	31
10.8	10.5/16	5	19	15	31
10.9		6	25	15	31
10.10	10.3/8	6	25	15	32
10.11	10.7/16	6	25	15	32
10.12		7	31	15	39
10.13	10.1/2	7	31	15	39
10.14	10.9/16	7	31	15	44
10.15		9	37	15	50
10.16	10.5/8	9	37	15	50
10.17	10.11/16	9	37	15	50
10.18		9	39	15	52
10.19	10.3/4	9	40	15	52



12 Ring ends

	E mm	A mm	D mm	L mm	⍙ g
12.7	7	7	14	15	31
12.8	7	8	14	15	31
12.9	7	9	14	15	31
12.10	8	10	17	15	32
12.11	8	11	17	15	32
12.12	10	12	20	15	38
12.13	10	13	20	15	38
12.14	11	14	23	15	43
12.15	11	15	23	15	43
12.16	12	16	27	15	50
12.17	12	17	27	15	50
12.18	13	18	29	15	53
12.19	13	19	29	15	53



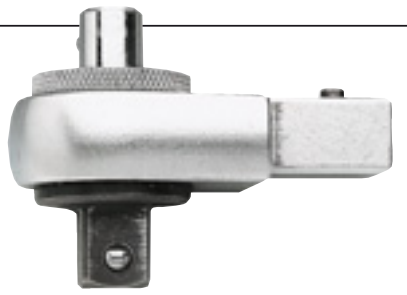
14 x 18 accessories

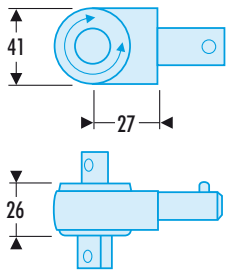
Ratchet

S.382

- For use with pivot knob S.305P.
- ☐ 1/2".

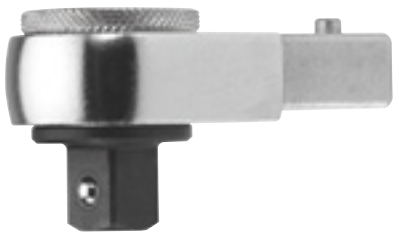
⚖ : 300 g.

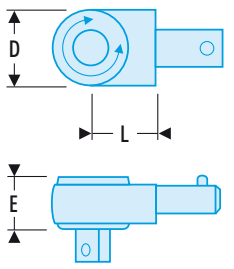




Compact ratchets

	☐ "	D mm	E mm	L mm	⚖ g
S.382V	1/2	41	26	27	285
K.382A	3/4	69	35	27	870

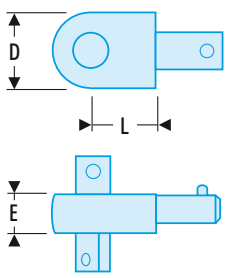




Square drives

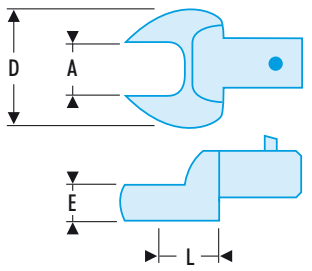
- For use with pivot knob S.305P, except model K.383.

	☐ "	D mm	E mm	L mm	⚖ g
S.383	1/2	32	22	27	160
K.383	3/4	38	22	27	340



11 Open ends

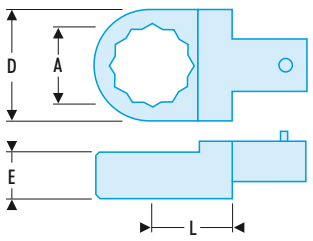
	A "	E mm	D mm	L mm	⚖ g
11.13	11.1/2	8	34	27	114
11.14	11.9/16	8	34	27	114
11.15		8	34	27	114
11.16	11.5/8	10	39	27	132
11.17	11.11/16	12	39	27	115
11.18		12	39	27	115
11.19	11.3/4	12	45	27	130
11.21	11.13/16	12	45	27	130
11.22	11.7/8	14	52	27	143
11.23	11.15/16	14	52	27	143
11.24		14	52	27	150
11.27	11.1'1/16	16	59	27	170
11.30		18	64	27	200
11.32	11.1'1/4	18	64	27	200



13 Ring ends

	A mm	D mm	E mm	L mm	⚖ g
13.13	13	23	11	27	109
13.14	14	51	11	27	109
13.15	15	24	11	27	109
13.16	16	26	11	27	115
13.17	17	26	12	27	115
13.18	18	26	12	27	115
13.19	19	30	12	27	130
13.21	21	31	12	27	130

	A mm	D mm	E mm	L mm	⚖ g
13.22	22	34	14	27	143
13.23	23	35	14	27	143
13.24	24	36	14	27	150
13.27	27	42	16	27	170
13.30	30	50	18	27	200
13.32	32	50	18	27	200
13.34	34	51	11	27	109
13.36	36	51	19	27	200



20 x 7 accessories

200P Pivot knobs

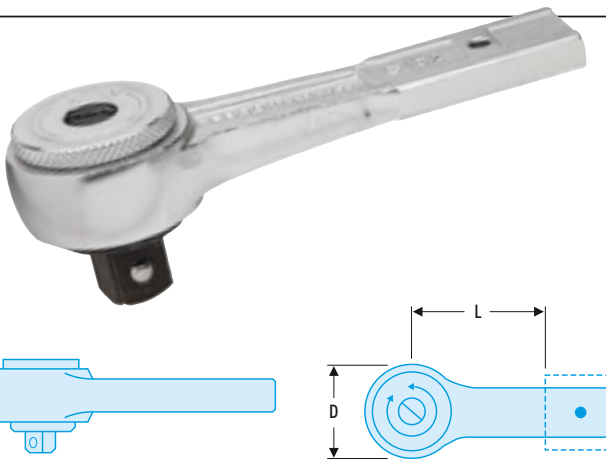
• Steadies the wrench square in relation to fastener centreline for greater torque accuracy.
• For use with square drives J.203E, S.203E and wrench R.203DA.

	For use with	Ø mm	L mm	g
R.200P	R.203DA	22	45	20
S.200P	J.203E, S.203E	36	55	55

Ratchets

• 5° increments.
• For use on J.203DA, S.203DA, S.306-100R, S.306-200R and S.306S-350R.
• Chrome finish.

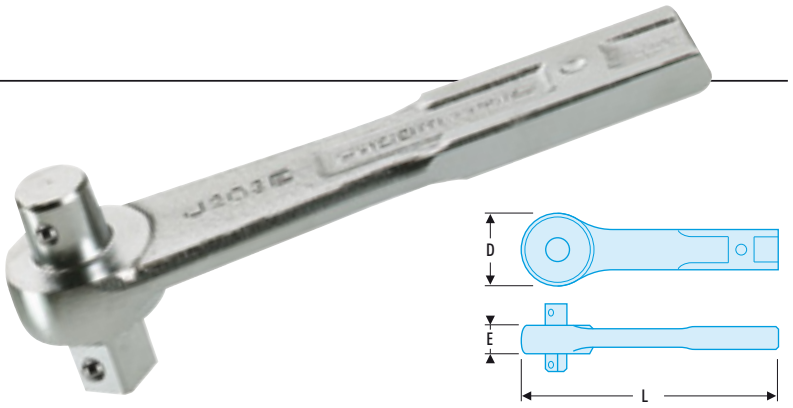
	For wrench	☐ "	E mm	D mm	L mm	g
J.152	J.203DA	3/8	25	38	55	274
S.152	S.203DA S.306-100R S.306-200R S.306-350R	1/2	25	38	55	275



Square drives

• For use on J.203DA, S.203DA, S.306-100R, S.306-200R and S.306-350R..

	☐ "	E mm	D mm	L mm	g
J.203E	3/8	11	25	56	140
S.203E	1/2	11	25	56	150



Adaptors

• For use with :
- 9 x 12 end fittings on wrenches up to 100 N.m
- 14 x 18 end fittings on wrenches up to 600 N.m

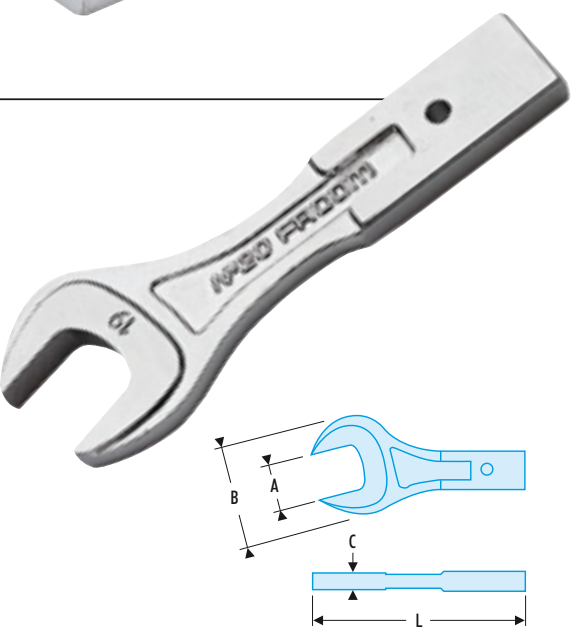
	End fitting	g
J.274	9x12	135
S.284	14x18	145

20 Open ends

• For use on 203, 306R and 446 series wrenches.
• Chrome finish.

	A mm	B mm	C mm	L mm	g
20.10	10	24	6,0	105	60
20.11	11	24	6,0	105	60
20.12	12	29	6,0	106	60
20.13	13	29	6,0	106	60
20.14	14	29	6,0	106	65
20.15	15	40	7,5	109	105
20.16	16	40	7,5	109	105
20.17	17	40	7,5	109	105
20.18	18	40	7,5	109	100
20.19	19	40	7,5	109	100
20.21	21	53	8,0	112	145

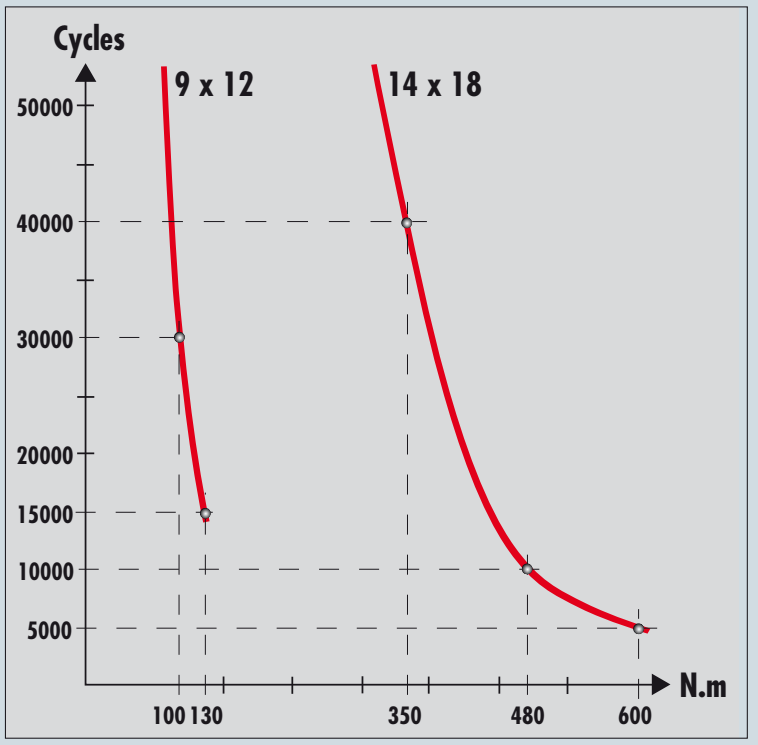
	A mm	B mm	C mm	L mm	g
20.22	22	53	8,0	112	145
20.23	23	53	8,0	112	145
20.24	24	53	8,0	112	140
20.26	26	53	8,0	112	130
20.27	27	66	9,0	115	185
20.28	28	66	9,0	115	185
20.29	29	66	9,0	115	185
20.30	30	66	9,0	115	185
20.32	32	66	9,0	115	180
20.35	35	74	10,0	118	220
20.36	36	74	10,0	118	220



Safety of end fittings

When the wrench releases, the torque accessories are subjected to severe shocks that can cause them to fail after a certain number of cycles.

The diagram below shows the number of cycles not to be exceeded according to the applied torque.
The accessory must be replaced before reaching the maximum number of cycles.



Specialist accessories

Pivot knob

S.305P

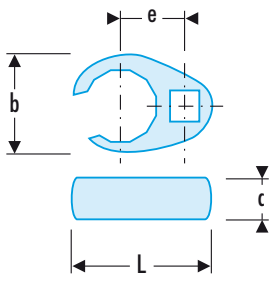
- Holds the wrench square in relation to fastener centreline.
- For use with 3/8" and 1/2" ratchets and square drives.
- Max. ∅ 45; length 66 mm.

⚖ : 110 g.

18 "Crowfoot" flare-nut ends mm and inch

▷ ASME B 107.21.
Optimum accessibility.
- The crowfoot design gives access to fasteners out of reach of a conventional torque wrench.
- Square drive ☐ 3/8".
- 12-point open end.

Tightening-torque setting
- The use of end accessories affects wrench lever arm length, see page.
- Before use, the torque wrench complete with accessory should therefore be calibrated on a torque-meter..



mm	A "	e mm	b mm	c mm	L mm	⚖ g
18.10	**18.3/8**	15,0	22,0	9,5	35	30
18.11	**18.7/16**	15,0	22,0	9,5	36	30
18.12	**18.1/2**	16,7	24,0	10,5	39	35
18.13		16,7	24,0	10,5	39	35
18.14	**18.9/16**	19,5	28,5	11,5	43	45
18.16	**18.5/8**	19,5	28,5	11,5	43	45
18.17	**18.11/16**	20,3	32,5	13,7	46	65
18.18		20,3	32,5	13,7	46	65
18.19	**18.3/4**	20,3	32,5	13,7	48	65
	18.13/16	21,8	36,5	13,7	49	75
	18.7/8	21,8	36,5	13,7	49	75
	18/1'	23,9	44,4	14,2	55	95

Protractor attachments

DESIGNED FOR CYLINDER-HEADS

FACOM offers a complete range of specially designed tools

Maximum visibility.

- Choice of tapered drum with reverse laser marking. (DMP.360, DM.360L, D.360L) or flat drum with normal marking. (DM.360, DM.370). Set the drum to the value recommended by the manufacturer and stop at zero.

Easier to attach.

- Wide range of drum-locking accessories : Clamp, magnet, 3 limit stops (24, 45 and 65 mm).

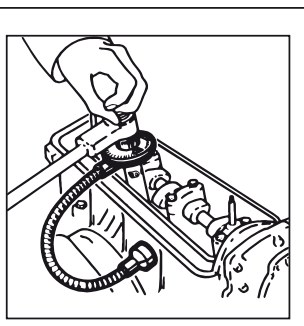
Compliance with manufacturers' recommendations.

- It is essential to apply the manufacturers' recommended cylinder head torques.
- Tightening to the correct torque with a suitable torque wrench.
- Correct torquing sequence and turn angle.

Protractor attachments

- 2° graduations.
- Drive ☐ drive.
- Fixed point by flexible arm with magnet.

	☐ "	Ø mm	L mm	⚖ g
DM.360	1/2	63	410	350
DM.370	3/4	73	430	550



Side-graduated protractor attachment ☐ 1/2"

D.360L

- Tapered side-graduated drum for maximum ease of reading.
- Double index (red line) for presetting. To tighten, simply align the two markers
- 2° resolution.
- Supplied with 24, 45 and 65 mm limit stops.

⚖ : 414 g.

Side-graduated protractor attachment with flexible arm and magnet ☐ 1/2"

DM.360L

- Supplied with a flexible arm and a magnet.

⚖ : 500 g.

Protractor attachment ☐ 1/2

DMP.360L

- Complete kit comprising 3 limit stops (24, 45, 65 and mm long), a flexible arm with a clamp and a magnet
- Dimensions : 375 x 180 x 145 mm.

⚖ : 550 g.

E.5000 "TORKONTROL" TORQUE TESTER

SIMPLE AND ACCURATE FOR THE WORKSHOP OR LABORATORY

High-performance

- *Large torque range : 10 to 1100 Nm*
- *High accuracy : +/- 1 % of reading over the entire range.*
- *Large contact surface ensuring accuracy and a high metrological standard.*
- *PC connection.*

Operating modes to suit all types of wrenches

- *ISO MODE :*
  for producing ISO 6789 calibration certificates.
- *PEAK MODE :*
  memorises the release value.
- *STORAGE MODE :*
  memorises the maximum recorded value.
- *TRACKING MODE :*
  checking of direct-reading and dial-type wrenches, etc.

User-friendly

- *Clear, easy-to-read dual display screen showing torque readings and interactive messages.*
- *Dual visual and sound signals : can be used in noisy and poor visibility conditions.*

Ergonomic

- *2 drill bits, tapping and riveting dimensions:*
  Easy-to-turn base providing horizontal and vertical wrench positions for use with high torque wrenches.
- *Attaches to the workbench in both positions*
- *suitable for all square drives from 1/4" to 1".*

Reminder

ISO 6789 wrench testing requirements :

The standard requires wrenches to be tested at 20 %, 60 % and 100 % of their maximum capacity. 5 test releases must be performed at each of these values.
The standard defines the tolerances for each type of tool (+/- 4 %, +/- 6 %, ...).

Electronic torque tester

Electronic torque tester

E.5000

GENERAL SPECIFICATION.

- Operating range : 10 Nm to 1,100 Nm
- Accuracy : +/- 1 % of reading over the entire reading range (digit included).
- Displayed torque range : 2 to 1,210 Nm
- 10 languages : IT, FR, GB, D, NL, E, PL, PO, DK, SW.
- Units : Nm, daNm, cNm, kgf.m, lbf.in, lbf.ft.
- 4 operating methods for all checking needs.
- Prevention of main measuring errors (Zero and hysteresis).
- Internal battery - average life 3 years.
- Storage temperature : -20°C to 70°C
- Operating temperature : 10°C to 40°C.
- Sensitivity drift : 0.2 % per °C (included in the ± 1 %).
- Ingress protection rating IP5 - EN 60592 (dust).
- EMC CE : 89/336 CEI EN 50081-1 / CEI EN 50082-2.
- Supply voltage : 115-230V / 50-60Hz.
- Power consumption in operation 30-50 mA / 230V, on standby 15 mA / 230V.

SOFTWARE SPECIFICATION.

- Storage of up to 500 measurements including date, time, method, unit and position.
- Direct connection to a PC without special software.
- System status information - Buzzer with five loudness settings.
- 3 light signal operating options.
- Customisation of working mode.

	Sizes	kg
E.5000	155 x 260 x 240 mm	13

CD.12 Test rig

- Applies torque at a constant speed in accordance with ISO 6789 requirements.
- Adjustment of wrench angle vertically and horizontally to remain within the tolerances specified by the standard.
- Metrological accuracy ensuring reliability of test results.
- Easy application of torque.
- Full rig comprises the base and the standard module.
- Torque tester E.5000 not included.

	Description	Capacity N.m	L mm	l mm	kg
CD.12-350	Complete test rig	5-350	1008	230	20
CD.12-350B	Test rig base	5 - 350	1008	230	13,26
CD.12-1100	Complete test rig	5-1100	1558	230	27
CD.12-1100B	Test rig base	5 - 1100	1558	230	19,77
CD.12-SM	Standard module	-	580	270	8,89

	Description
CD.12-A	Spare parts

Tip

FACOM TORQUE-METER MAINTENANCE AND INSPECTION

- These reliable field-proven, units require no special servicing.
- Avoid knocks, falls and overloads, and protect from the weather.
- New units are supplied complete with a calibration certificate.
- Periodic inspection can be carried out at the Facom metrology laboratory that is accredited by COFRAC for torque value calibration. (Accreditation no. 2-1305).

See laboratory section, page 301

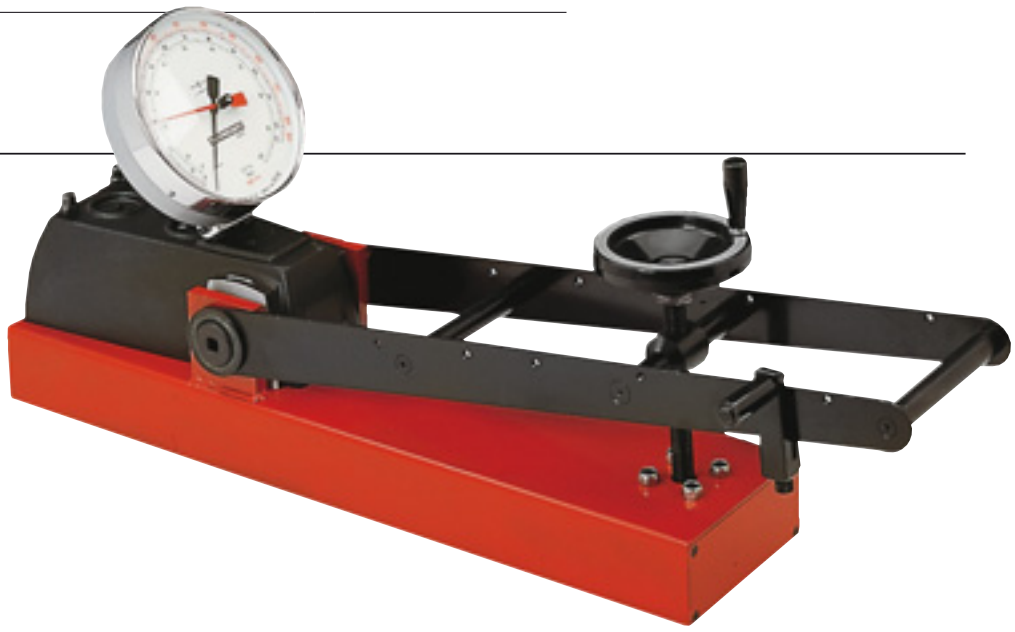
Mechanical torque testers

CD Wrench torque-meters

- Accuracy : +/- 1 % from 20 % to 100 % of full scale reading.
- Numbered and supplied with a calibration certificate.
- Hydraulic system for long-term reliability.
- Hinged dial allows use upright or horizontal.
- Large-diameter dial with reference pointer for clear, error-free readings.
- Base dimensions 330 x 120 mm.
- Dial diameter 206 mm.

	Capacity					1 graduation					☐	⚖
	N.m	kgf.cm	kgf.m	lbf.in	lbf.ft	N.m	kgf. cm	kgf. m	lbf. in	lbf. ft	"	kg
CD.1	12-60	125-625		110-550		0,5	5		5		3/8-1/2	7,800
CD.2	20-125		2-12,5		20-100	1		0,1		1	3/8-1/2-3/4	7,800
CD.3	100-500		10-50		75-375	5		0,5	5		1/2-3/4-1	7,800

Test rig for CD torque-meters



CD.10

- Recommended for click-type torque wrenches.
- Useful addition to torque-meters CD.1 to CD.3.
- Demultiplied handwheel applies torque progressively to wrenches for precise calibration checks.
- Dimensions : 1,020 x 250 mm.

⚖ : 19.2 kg.

CDS Screwdriver torque-meters

- Accuracy : +/- 2 % from 20 % to 100 % of full scale reading.
- Numbered and supplied with a calibration certificate.
- Large-diameter dial with reference pointer for clear, error-free readings.
- Dimensions : 250 x 150 x 100 mm.
- Complete with 2 square drives.

⚖ : 1.9 kg.

	Capacity				1 graduation				☐
	cN.m	N.m	ozf.in	lbf.in	cN. m N.m	N.m	ozf. in	lbf.in	"
CDS.1	5-35		7-50		0,5		0,5		1/4-3/8
CDS.2	10-70		14-100		1		1		1/4-3/8
CDS.3		0,5-4		5-36		0,05		0,5	1/4-3/8
CDS.4		2-12		18-120		0,2		2	1/4-3/8