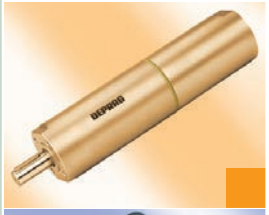
Complete Product Line

DEPRAG

Screwdriving technology

Automation



Air motors

Air tools

D 0012 E 02.2015

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Details will be provided at www.deprag.com.

DEPRAG INDUSTRIAL AIR TOOLS

Any news and further details will be provided at www.deprag.com.
All catalogues can be downloaded from there.

GENERAL INFO

Listing of individual catalogues

HANDHELD SCREWDRIVERS PNEUMATIC with mechanical shut-off clutch

345-3008 U
to
345-7008 U

NANOMAT / MICROMAT Screwdrivers

Type	Part no.	Torque min. Ncm	Torque max. soft pull-up Ncm	Torque max. hard pull-up Ncm	Speed, idling rpm	Screws	Weight kilos
straight, reversible, push-to-start (hex. female), 3 mm							
345-3008 U	202600 C	1	15	15	1400	M 2	0.14
345-5008 U	202600 E	0.8	25	25	680		
345-6008 U	202600 F	0.8	30	30	500		
345-7008 U	202600 G	0.8	30	30	300		
straight, right rotation, push-to-start (hex. female), 3 mm							
345-308	339267 A	2	50	60	1600	M 3	0.15
345-408	345763 A	2	55	55	1100		
345-708	385162 A	2	70	70	600		0.16
345-508	339268 A	2	70	70	350		
straight, reversible, push-to-start (hex. female), 3 mm							
345-308 U	339269 A	2	40	50	1300	M 3	0.17
345-408 U	345764 A	2	50	50	950		0.17
345-708 U	385163 B	2	70	70	480		0.18
345-508 U	339270 A	2	70	70	300		0.18

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

345-308 U
to
345-508 U

MINIMAT Screwdrivers

Type	Part no.	Torque min. Nm	Torque max. soft pull-up Nm	Torque max. hard pull-up Nm	Speed, idling rpm	Screws	Weight kilos
straight, reversible, push-to-start (hex. female), 1/4"							
347-218 U	397060 A	0.3	1	1	1900	M 3	0.40
347-318 U	397060 B	0.3	1.4	1.4	1300		0.40
347-518 U	397060 C	0.2	2	2	900		0.40
347-618 U	397060 D	0.2	2	2	600		0.43
347-228 U	386363 A	0.5	1.3	1.8	3000	M 4	0.68
347-728 U	386363 E	0.4	1.8	2.0	1600		0.69
347-328 U	386363 B	0.4	2.4	2.8	1100		0.69
347-428 U	386363 D	0.4	3.5	4	750		0.69
347-528 U	386363 C	0.3	5	5	500	M 5	0.69
345-7258 U	351568 A	1	5	6	1100		0.90
345-3258 U	351568 B	1	10	10	640	M 6	0.90
345-4258 U	351568 C	1	12	12	310		0.90
346-238 U	396188 B	2	4.5	5.5	2300	M 5	1.31
346-738 U	396188 C	2	7	8	1200	M 6	1.45
346-338 U	396188 D	2	12	12	650		1.45
346-438 U	396188 E	2	20	20	320	M 8	1.45
straight, reversible, lever-start (hex. female), 1/4"							
347-221 U	386364 A	0.5	1.3	1.8	3000	M 4	0.68
347-721 U	386364 E	0.4	1.8	2.0	1600		0.69
347-321 U	386364 B	0.4	2.4	2.8	1100		0.69
347-421 U	386364 D	0.4	3.5	4	750		0.69
347-521 U	386364 C	0.3	5	5	500	M 5	0.69
345-7251 U	384354 A	1	5	6	1100		0.9
345-3251 U	384354 B	1	10	10	640	M 6	0.9
345-4251 U	384354 C	1	12	12	310		0.9
346-731 U	398684 C	2	7	8	1200		1.45
346-331 U	398684 D	2	12	12	650		1.45
346-431 U	398684 E	2	20	20	320	M 8	1.45

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

347-218 U
to
347-618 U

347-228 U
to
347-528 U

345-7258 U
to
345-4258 U

346-238 U
to
346-438 U

MINIMAT Screwdrivers

Type	Part no.	Torque min. Nm	Torque max. soft pull-up Nm	Torque max. hard pull-up Nm	Speed, idling rpm	Screws	Weight kilos
pistol grip, lower air-inlet, reversible, trigger-start (hex. female), 1/4"							
347-227 U	394569 A	0.5	1.3	1.5	3000	M 3	0.75
347-327 U	394569 B	0.4	3	3.2	1100	M 4	0.75
347-427 U	394569 D	0.4	3.5	4	750		0.75
347-527 U	394569 C	0.3	5	5	500	M 5	0.75
346-7257 U	412799 A	1	5	6	1025		1.2
346-3257 U	412799 B	1	10	10	525	M 6	1.2
346-4257 U	412799 C	1	12	12	270		1.2
346-237 U	400373 B	2	4.5	5.5	2300	M 5	1.6
346-737 U	400373 C	2	7	8	1200	M 6	1.7
346-337 U	400373 D	2	12	12	650		1.7
346-437 U	400373 E	2	20	20	320	M 8	1.7
pistol grip, upper air-inlet, reversible, trigger-start (hex. female), 1/4"							
347-227 OU	394570 A	0.5	1.3	1.5	3000	M 3	0.75
347-327 OU	394570 B	0.4	3	3.2	1100	M 4	0.75
347-427 OU	394570 D	0.4	3.5	4	750		0.75
347-527 OU	394570 C	0.3	5	5	500	M 5	0.75
pistol grip, lower air-inlet, reversible, push-to-start (hex. female), 1/4"							
347-229 U	394573 A	0.5	1.3	1.5	3000	M 3	0.75
347-329 U	394573 B	0.4	3	3.2	1100	M 4	0.75
347-429 U	394573 D	0.4	3.5	4	750		0.75
347-529 U	394573 C	0.3	5	5	500	M 5	0.75
345-7259 U	390854 A	1	5	6	1025		1.2
345-3259 U	390854 B	1	10	10	525	M 6	1.2
345-4259 U	390854 C	1	12	12	270		1.2
346-239 U	411447 B	2	4.5	5.5	2300	M 5	1.6
346-739 U	411447 C	2	7	8	1200	M 6	1.7
346-339 U	411447 D	2	12	12	650		1.7
346-439 U	411447 E	2	20	20	320	M 8	1.7
pistol grip, upper air-inlet, reversible, push-to-start (hex. female), 1/4"							
347-229 OU	394574 A	0.5	1.3	1.5	3000	M 3	0.75
347-329 OU	394574 B	0.4	3	3.2	1100	M 4	0.75
347-429 OU	394574 D	0.4	3.5	4	750		0.75
347-529 OU	394574 C	0.3	5	5	500	M 5	0.75
pistol grip, lower air-inlet, upper air-inlet or rear air-inlet, reversible, trigger-start (hex. female), 1/4"							
344-347 U	400320 D	3	6.5	8.5	2300	M 5	1.7
344-447 U	400320 E	3	8	10	1600	M 6	1.7
344-247 U	400320 F	2	17	17	650	M 8	1.95
pistol grip, lower air-inlet, upper air-inlet or rear air-inlet, reversible, push-to-start (hex. female), 1/4"							
344-349 U	411448 D	3	6.5	8.5	2300	M 5	1.7
344-449 U	411448 E	3	8	10	1600	M 6	1.7
344-249 U	411448 F	2	17	17	650	M 8	1.95

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

347-227 OU
to
347-527 OU

346-7257 U
to
346-4257 U

346-237 U
to
346-437 U

344-347 U
to
344-447 U

HANDHELD SCREWDRIVERS PNEUMATIC with mechanical shut-off clutch

MINIMAT Screwdrivers

377-321 U
377-421 U
377-521 U

376-7251 U
376-3251 U

377-731 U
377-331 U
377-431 U

377-941 U
377-741 U
377-841 U

377-321 U-SW..
377-421 U-SW..
377-521 U-SW..

376-7251 U-SW..
376-3251 U-SW..

Type	Part no.	Torque min. Nm	Torque max. Nm	Speed, idling rpm	Drive	Screws	Weight kilos
angle-head, reversible, lever-start (square male)							
377-321 U	386530 B	0.4	3.5	780	1/4"	M 4	0.85
377-321 U-E10	390887 B	0.4	3.5	780	3/8"		0.85
377-421 U	386530 D	0.4	4.5	500	1/4"	M 5	0.85
377-421 U-E10	390887 D	0.4	4.5	500	3/8"		0.85
377-521 U	386530 C	0.3	6.5	350	1/4"		0.85
377-521 U-E10	390887 C	0.3	6.5	350	3/8"		0.85
376-7251 U	378385 A	1.5	8	810	1/4"		1.2
376-7251 U-E10	382687 A	1.5	8	810	3/8"		1.2
376-3251 U	378385 B	1.5	15	410	1/4"	M 6	1.2
376-3251 U-E10	382687 B	1.5	15	410	3/8"		1.2
377-731 U-E12.5	396037 C	4	11	700	1/2"		2
377-331 U-E12.5	396037 D	4	20	350	1/2"	M 8	2
377-431 U-E12.5	396037 E	4	35	180	1/2"	M 10	2
377-731 U-E10	411310 C	4	10	730	3/8"	M 6	1.9
377-331 U-E10	411310 D	4	19	365	3/8"	M 8	1.9
377-431 U-E10	400611 E	4	33	190	3/8"		1.9
377-941 U-E12.5	379100 B	8	32	410	1/2"	M 10	2.3
377-741 U-E12.5	379100 C	8	46	270	1/2"		2.3
377-841 U-E12.5	379100 D	8	65	185	1/2"	M 12	2.3
377-941 U-E10	400638 B	7	30	430	3/8"	M 10	2.2
377-741 U-E10	400638 C	7	44	285	3/8"		2.2
angle-head, reversible, lever-start (hex. female, non-magnetic)							
377-321 U-D	390883 B	0.4	3.5	780	1/4"	M 4	0.85
377-421 U-D	390883 D	0.4	4.5	500		M 5	0.85
377-521 U-D	390883 C	0.3	6.5	350		M 5	0.85
376-7251 U-D	382683 A	1.5	8	810		M 6	1.2
376-3251 U-D	382683 B	1.5	15	410		M 6	1.2
angle-head, reversible, lever-start (hex. female, magnetic)							
377-321 U-DM	390884 B	0.4	3.5	780	1/4"	M 4	0.85
377-421 U-DM	390884 D	0.4	4.5	500		M 5	0.85
377-521 U-DM	390884 C	0.3	6.5	350			0.85
376-7251 U-DM	382684 A	1.5	8	810		M 6	1.2
376-3251 U-DM	382684 B	1.5	15	410			1.2
angle-head, reversible, lever-start (hex. female, with quick change chuck)							
377-321 U-F	390885 B	0.4	3.5	780	1/4"	M 4	0.85
377-421 U-F	390885 D	0.4	4.5	500		M 5	0.85
377-521 U-F	390885 C	0.3	6.5	350			0.85
376-7251 U-F	382685 A	1.5	8	810		M 6	1.2
376-3251 U-F	382685 B	1.5	15	410			1.2
angle-head, reversible, lever-start (hex. female, with quick change chuck and spring-sleeve)							
377-321 U-FH	390886 B	0.4	3.5	780	1/4"	M 4	0.85
377-421 U-FH	390886 D	0.4	4.5	500		M 5	0.85
377-521 U-FH	390886 C	0.3	6.5	350			0.85
376-7251 U-FH	382686 A	1.5	8	810		M 6	1.2
376-3251 U-FH	382686 B	1.5	15	410			1.2
angle-head, reversible, lever-start (integrated socket with hex. female drive)							
377-321 U-SW 6	390925/1B	0.4	3.5	780	AF6	M 4	0.85
377-321 U-SW 8	390925/2B	0.4	3.5	780	AF8		0.85
377-321 U-SW 10	390925/3B	0.4	3.5	780	AF10		0.85
377-321 U-SW 13	390925/4B	0.4	3.5	780	AF13		0.85
377-421 U-SW 6	390925/1D	0.4	4.5	500	AF6	M 5	0.85
377-421 U-SW 8	390925/2D	0.4	4.5	500	AF8		0.85
377-421 U-SW 10	390925/3D	0.4	4.5	500	AF10		0.85
377-421 U-SW 13	390925/4D	0.4	4.5	500	AF13		0.85
377-521 U-SW 6	390925/1C	0.3	6.5	350	AF6		0.85
377-521 U-SW 8	390925/2C	0.3	6.5	350	AF8		0.85
377-521 U-SW 10	390925/3C	0.3	6.5	350	AF10		0.85
377-521 U-SW 13	390925/4C	0.3	6.5	350	AF13		0.85
376-7251U-SW6	386139/1A	1.5	8	810	AF6	M 6	1.2
376-7251U-SW8	386139/2A	1.5	8	810	AF8		1.2
376-7251U-SW10	386139/3A	1.5	8	810	AF10		1.2
376-7251U-SW13	386139/4A	1.5	8	810	AF13		1.2
376-3251U-SW6	386139/1B	1.5	15	410	AF6		1.2
376-3251U-SW8	386139/2B	1.5	15	410	AF8		1.2
376-3251U-SW10	386139/3B	1.5	15	410	AF10		1.2
376-3251U-SW13	386139/4B	1.5	15	410	AF13		1.2

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

HANDHELD SCREWDRIVERS PNEUMATIC with mechanical shut-off clutch

MICROMAT-ESD / MINIMAT-ESD Screwdrivers

Type	Part no.	Torque min. Nm	Torque max. soft pull-up Nm	Torque max. hard pull-up Nm	Speed, idling rpm	Drive	Screws	Weight kilos
straight, reversible, push-to-start (hex. female)								
345-308 U ESD	376846 A	0.02	0.4	0.5	1300	3 mm	M 3	0.17
345-408 U ESD	376846 B	0.02	0.5	0.5	950			0.17
345-708 U ESD	385164 A	0.02	0.7	0.7	480			0.18
345-508 U ESD	376846 C	0.02	0.7	0.7	300			0.18
347-218 U ESD	403345 A	0.3	1	1	1900	1/4"		0.40
347-318 U ESD	403345 B	0.3	1.4	1.4	1300			0.40
347-518 U ESD	403345 C	0.2	2	2	900			0.40
347-618 U ESD	403345 D	0.2	2	2	600			0.43
347-228 U ESD	392476 A	0.5	1.3	1.8	3000		M 4	0.68
347-328 U ESD	392476 B	0.4	2.4	2.8	1100			0.69
347-428 U ESD	392476 D	0.4	3.5	4	750			0.69
347-528 U ESD	392476 C	0.3	5	5	500		M 5	0.69
345-7258U ESD	409631 A	1	5	6	1100			0.9
345-3258U ESD	409631 B	1	10	10	640		M 6	0.9
345-4258U ESD	409631 C	1	12	12	310			0.9

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

345-308 U ESD to 345-508 U ESD

347-218 U ESD to 347-618 U ESD

347-228 U ESD to 347-528 U ESD

HANDHELD SCREWDRIVERS PNEUMATIC with controlled clutch function

SENSOMAT Screwdrivers

Type	Part no.	Seating Torque min. Nm	Seating Torque max. Nm	Driving Torque max. Nm	Speed, idling rpm	Screws	Weight kilos
straight, reversible, push-to-start (hex. female), 1/4"							
347 S-218 U	405158 A	0.3	1	1.1	1900	M 3	0.52
347 S-318 U	405158 B	0.4	1.4	1.6	1300		0.52
347 S-518 U	405158 C	0.4	2	2.2	900		0.52
347 S-618 U	405158 D	0.4	2	2.2	600		0.52
347 S-328 U	386542 B	0.4	2.8	3.1	1100	M 4	0.76
347 S-428 U	386542 D	0.4	3.5	3.9	750		0.76
347 S-528 U	386542 C	0.3	5	5.5	500	M 5	0.76
346 S-238 U	409114 B	0.5	4.5	5	2300		1.41
346 S-738 U	409114 C	0.4	5	7	1200		1.48
pistol grip, lower air-inlet, reversible, trigger-start (hex. female), 1/4"							
347 S-327 U	391486 B	0.4	3	3.3	110	M 4	0.82
347 S-427 U	391486 D	0.4	3.5	3.9	750		0.82
347 S-527 U	391486 C	0.3	5	5.5	500	M 5	0.82
345 S-237 U	392773 A	0.5	4.5	5	2300		1.5
345 S-737 U	392773 B	0.4	5	7	1200		1.6
pistol grip, upper air-inlet, reversible, trigger-start (hex. female), 1/4"							
347 S-327 OU	391490 B	0.4	3	3.3	1100	M 4	0.82
347 S-427 OU	391490 D	0.4	3.5	3.9	750		0.82
347 S-527 OU	391490 C	0.3	5	5.5	500	M 5	0.82

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

347 S-328 U to 347 S-528 U

347 S-327 U to 347 S-527 U

347F-228
to
347F-528

345 F-7257
to
345 F-4257

347 F-227 O
to
347 F-527 O

377 F-321
to
377 F-521

MICROMAT-F / MINIMAT-F Screwdrivers

Type	Part no.	Torque min. Nm	Torque max. soft pull-up Nm	Torque max. hard pull-up Nm	Speed, idling rpm	Drive	Screws	Weight kilos
straight, right rotation, push-to-start (hex. female)								
345F-308	399400 A	0.02	0.5	0.6	1600	3 mm	M 3	0.15
345F-408	399400 B	0.02	0.55	0.55	1100			0.15
345F-708	399400 C	0.02	0.7	0.7	600			0.16
345F-508	399400 D	0.02	0.7	0.7	350	1/4"		0.16
347F-218	397061 A	0.3	1	1	1900			0.40
347F-318	397061 B	0.3	1.4	1.4	1300			0.40
347F-518	397061 C	0.2	2	2	900			0.40
347F-618	397061 D	0.2	2	2	600			0.43
347F-228	386365 A	0.5	1.8	2	4000		M 4	0.68
347F-328	386365 B	0.4	3	3.2	1550			0.69
347F-428	386365 D	0.4	4	4.5	1000			0.69
347F-528	386365 C	0.3	5	5	680		M 5	0.69
345F-7258	401537 A	1	5	6	1100			1.2
345F-3258	401537 B	1	10	10	680		M 6	1.2
345F-4258	401537 C	1	12	12	310			1.2
346F-238	396359 B	2	5	6	2500		M 5	1.28
346F-738	396359 C	2	8	9	1400		M 6	1.34
346F-338	396359 D	2	14	14	750			1.34
346F-438	396359 E	2	20	20	400		M 8	1.34
pistol grip, lower air-inlet, right rotation, trigger start (hex. female)								
347F-227	391735 A	0.4	1.5	1.8	4000	1/4"	M 3	0.75
347F-327	391735 B	0.4	3	3.2	1550		M 4	0.75
347F-427	391735 D	0.4	3.5	4	1000			0.75
347F-527	391735 C	0.3	5	5	680		M 5	0.75
345F-7257	394625 A	1	5	6	1025			1.2
345F-3257	394625 B	1	10	10	525			1.2
345F-4257	394625 C	1	12	12	270		M 6	1.2
346F-737	400561 C	2	8	9	1400			1.7
346F-337	400561 D	2	14	14	750			1.7
346F-437	400561 E	2	20	20	400		M 8	1.7
pistol grip, upper air-inlet, right rotation, trigger-start (hex. female)								
347F-227 O	391473 A	0.4	1.5	1.8	4000	1/4"	M 3	0.75
347F-327 O	391473 B	0.4	3	3.2	1550		M 4	0.75
347F-427 O	391473 D	0.4	3.5	4	1000			0.75
347F-527 O	391473 C	0.3	5	5	680		M 5	0.75
pistol grip, lower air-inlet, reversible, trigger-start (hex. female)								
347F-227 U	395047 A	0.4	1.5	1.8	3000	1/4"	M 3	0.75
347F-327 U	395047 B	0.4	3	3.2	1100		M 4	0.75
347F-427 U	395047 D	0.4	3.5	4	750			0.75
347F-527 U	395047 C	0.3	5	5	500		M 5	0.75
346F-737 U	402845 C	2	7	8	1200		M 6	1.7
346F-337 U	402845 D	2	12	12	650			1.7
346F-437 U	402845 E	2	20	20	320		M 8	1.7
pistol grip, upper air-inlet, reversible, trigger-start (hex. female)								
347F-227 OU	395052 A	0.4	1.5	1.8	3000	1/4"	M 3	0.75
347F-327 OU	395052 B	0.4	3	3.2	1100		M 4	0.75
347F-427 OU	395052 D	0.4	3.5	4	750			0.75
347F-527 OU	395052 C	0.3	5	5	500		M 5	0.75
angle-head, right rotation, lever-start (square male)								
377F-321	389689 B	0.4	3.5	3.5	820	1/4"	M 4	0.85
377F-421	389689 D	0.4	4.5	4.5	530		M 5	0.85
377F-521	389689 C	0.3	6.5	6.5	380			0.85
376F-7251	392061 A	1.5	8	8	810			1.2
376F-3251	392061 B	1.5	15	15	410		M 6	1.2
377F-731	404085 C	4	13	13	840	1/2"		2
377F-331	404085 D	4	23	23	450		M 8	2
377F-431	404085 E	4	33	33	240			2
377F-941-E12.5	204209 B	8	32	32	410		M 10	2.3
377F-741-E12.5	204209 C	8	46	46	270			2.3
377F-841-E12.5	204209 D	8	65	65	185		M 12	2.3

Required accessories for MINIMAT-F screwdriver:
Function controller fc und pneumatic controller pc.
For technical details see brochure D3440 E or page 18/19 of this catalogue.

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

VARIOMAT - drilling machine and screwdriver in one tool

Type	Part no.	Torque min. Nm	Torque max. soft pull-up Nm	Torque max. hard pull-up Nm	Speed, idling rpm	Screws nominal Ø	Ge-wicht kilos
Basic model, drive 1/2" 20 UNF / F6.3 *)							
305-237 UH	401354 A	according to equipment (equipment optional)			2000	max. 5	0.9

Please order necessary accessories extra

*) according to equipment, see also broschure D3520 E

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

305-237 UH

325-3258 UL
325-4258 UL

RECYCLING Drivers

Type	Part no.	Torque max. Nm	Speed, idling rpm	Weight kilos
straight, reversible, push-to-start (hex female), 1/4"				
325-3258 UL	362714 A	10	640	0.8
325-4258 UL	362714 B	10	310	0.8
pistol grip, lower air-inlet, reversible, trigger-start (hex. female), 1/4"				
305-3257 UL	352587 E	15	525	1.05
305-4257 UL	352587 F	18	270	1.05

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

305-3257 UL
305-4257 UL.

Flat head wrenches

Type	Part no.	Speed, idling rpm	Screws	Weight, kilos
straight, lever-start, closed head				
39-521-19 K	391625 A	90	M 4 - M 6	1.15
39-331-19 K	390518 F	165		1.5
39-331-21 K	390518 G	160	M 4 - M 7	1.5
39-331-32 K	390518 A	150	M 6 - M 12	1.6
39-331-32 L	390518 C	150		1.75
39-331-46 K	390518 N	110	M 8 - M 18	1.7

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

39-521-19 K

39-331-19 K
to
39-331-46 K

HANDHELD SCREWDRIVERS PNEUMATIC FOR SPECIAL APPLICATIONS

HSC 02 GS
HSC 03 GS

HSC 03 PS
to
HSC 10 P

Impulse Driver without shut-off

Type	Part no.	Torque min. Nm	Torque max. Nm	Speed, idling rpm	Air consumption m^3/min	Drive	Screws	Weight kilos
straight, reversible (quick change chuck with hex. female)								
HSC 02 GS	812482 A	14	20	10500	0.25	1/4"	M 4 - M 6	0.96
HSC 03 GS	812480 A	18	27	10500	0.30		M 6	1.02
pistol grip, reversible (quick change chuck with hex. female)								
HSC 03 PS	812479 A	18	27	10500	0.30	1/4"	M 6	1.02
HSC 04 PS	812478 B	24	38	8400	0.6		M 4 - M 6	1.3
pistol grip, reversible (square male)								
HSC 03 P	812481 A	19	30	10500	0.30	3/8"	M 6 - M 8	1.02
HSC 04 P	812483 A	28	48	8200	0.35		M 8 - M 10	1.4
HSC 08 P	812484 A	60	85	6500	0.40	1/2"	M 10	2
HSC 10 P	812485 A	100	140	6000	0.50		M 12 - M 14	2.7

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

HY 235 P7

HY 115 G1
HY 135 G8

HY 160 P7

Impulse Driver with shut-off

Type	Part no.	Torque min. Nm	Torque max. Nm	Speed, idling rpm	Air consumption m^3/min	Drive	Screws	Weight kilos
pistol grip, reversible (quick change chuck with hex. female)								
HY 115 G1	363027 A	5	15	3000	0.10	1/4"	to M 6	1.1
HY 135 G8	363031 A	15	35	4000	0.37	7/16"	to M 8	1.35
pistol grip, reversible (quick change chuck with hex. female)								
HY 307 P7	421136 A	4	7	6000	0.2	1/4"	M 5 to M 6	0.83
HY 211 P7	411558 A	6	11	6500	0.3		to M 6	0.85
HY 220 P7	411559 A	10	20	7500	0.35		to M 7	0.85
HY 235 P7	411560 A	20	35	6500	0.55		to M 8	1
pistol grip, reversible (square male)								
HY 160 P7	375930 A	30	60	3500	0.7	1/2"	to M 10	2
HY 180 P7	423088 A	50	80	6000	0.75		to M 12	1.4
HY1120 P7	423185 A	70	120	5500	0.85		to M 14	1.7

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

345 T-7258 U
345 T-3258 U
345 T-4258 U

345 T-7257 U
345 T-3257 U
345 T-4257 U

MINIMAT-T the Depth-Stop-Driver

Type	Part no.	Torque max. Nm.	Speed, idling rpm	Weight kilos
straight, reversible, push-to-start (hex. female), 1/4"				
345 T-7258 U	369272 A	5	1100	0.8
345 T-3258 U	369272 B	10	680	0.8
345 T-4258 U	369272 C	12	310	0.8
pistol grip, lower air-inlet, reversible, trigger-start (hex. female), 1/4"				
345 T-7257 U	369273 A	5	1025	1.1
345 T-3257 U	369273 B	10	525	1.1
345 T-4257 U	369273 C	12	270	1.1

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

Electric Screwdrivers with mechanical shut-off clutch

Type	Part no.	Torque min. Nm	Torque max. Nm	Speed, reversible rpm	Screws	Weight kilos
straight, reversible, lever-start (hex. female), 1/4"						
342 EGT-0003	385774 A	0.04	0.3	700/1000	M 2	0.39
342 EGT-0012	385775 A	0.15	1.2	650/1000	M 3	0.52
342 EGT-0019	385776 A	0.3	1.9	650/1000	M 4	0.52
342 EGT-0029	385777 A	1	2.9	1000		0.8
342 EGT-0049	385778 A	2	4.9	1000	M 5	0.8
342 EGT-0088	385783 A	3	8.8	800	M 6	1.2
straight, reversible, push-to-start (hex. female), 1/4"						
342 EGA-0012	385779 A	0.15	1.2	650/1000	M 3	0.52
342 EGA-0019	385780 A	0.3	1.9	650/1000	M 4	0.52
342 EGA-0029	385781 A	1	2.9	1000		0.8
342 EGA-0049	385782 A	2	4.9	1000	M 5	0.8
342 EGA-0088	385786 A	3	8.8	800	M 6	1.2


342EGT-0003 with screwdriver-cable


342EGT-0012 to 342EGT-0019


342EGA-0029 to 342EGA-0049


342EGx-0088

Cordless Screwdriver with mechanical shut-off clutch

Type	Part no.	Torque min. / max. Nm	Speed, reversible rpm	Screws
pistol grip, reversible, trigger-start (quick change chuck with hex. female), 1/4"				
342APT-0035	385851 A	1.0 / 3.5	1300/2000	M 4
342APT-0060	385852 A	2.0 / 6.0	650/1000	M 5

Required accessories for cordless screwdrivers: Rechargeable battery, charger and power supply cable.
For technical details see brochure D3484E.


342APT-....

Cordless Impact Wrenches with automatic shut-off

Type	Part no.	Torque max. Nm	Speed, idling rpm	Impacts per minute min^{-1}
pistol grip, reversible, trigger-start (square male), ½"				
300APTS-250	385880 A	250	2300	3200

Required accessories for cordless impact wrenches: Rechargeable battery, charger and power supply cable.
For technical details see brochure D3487E.


300APTS-250

MINIMAT-EC
320EGT22-…
trigger start

MINIMAT-EC
320EGA27-…
320EGA36-…

MINIMAT-EC
320EPT27-…
320EPT36-…

320 EWT27-..
320 EWT36-..

MINIMAT-EC Screwdrivers

Type	Part no.	Torque min. Nm	Torque max.*) Nm	Speed, min. rpm	Speed, max.*) rpm	Drive
straight, push-to-start (hex. female)						
320EGA22-00025	420555 A	0.03	0.25	100	2000	3 mm
320EGA22-00050	420555 B	0.1	0.5	80	1600	
320EGA22-00080	420555 C	0.16	0.8	60	1200	
320EGA27-0010	399515 B	0.15	1	50	1000	
320EGA22-00120	420555 D	0.24	1.2	50	900	1/4"
320EGA22-00200	420555 E	0.4	2.0	30	550	
320EGA27-0018	399515 F	0.4	1.8	100	1000	
320EGA27-0022	399515 C	0.4	2.2	50	700	
320EGA27-0040	399515 D	0.7	4	40	400	
320EGA36-0040	404866 A	0.8	4	100	1000	
320EGA36-0060	404866 B	1	6	70	740	
320EGA36-0120	404866 C	2	12	35	380	
320EGA36-0180	404866 D	3	18	25	280	
pistol-grip, trigger-start (hex. female)						
320EPT27-0004	403636 A	0.06	0.4	60	1200	3 mm
320EPT27-0010	403636 B	0.15	1	50	1000	
320EPT27-0022	403636 C	0.4	2.2	50	700	1/4"
320EPT27-0040	403636 D	0.7	4	40	400	
320EPT36-0040	400532 A	0.8	4	100	1000	
320EPT36-0060	400532 B	1	6	70	740	
320EPT36-0120	400532 C	2	12	35	380	
320EPT36-0180	400532 D	3	18	25	280	
angle head, lever-start (square male)						
320EWT27-0022-E6	400580 B	0.4	2.2	80	800	1/4"
320EWT27-0035-E6	400580 C	0.7	3.5	50	500	
320EWT27-0060-E6	400580 E	1	6	30	300	
320EWT27-0022-E10	409902 B	0.4	2.2	80	800	3/8"
320EWT27-0035-E10	409902 C	0.7	3.5	50	500	
320EWT27-0060-E10	409902 E	1	6	30	300	
320EWT36-0060-E6	405646 B	1	6	75	750	1/4"
320EWT36-0120-E6	405646 C	2	12	40	400	
320EWT36-0180-E10	405646 D	3	18	20	240	3/8"
320EWT36-0250-E10	405646 E	5	25	15	180	
320EWT36-0060-E10	410932 B	1	6	75	750	
320EWT36-0120-E10	410932 C	2	12	40	400	
angle head, lever-start (hex female)						
320EWT27-0022-F6	409903 B	0.4	2.2	80	800	1/4"
320EWT27-0035-F6	409903 C	0.7	3.5	50	500	
320EWT27-0060-F6	409903 E	1	6	30	300	
320EWT27-0022-D6	409900 B	0.4	2.2	80	800	
320EWT27-0035-D6	409900 C	0.7	3.5	50	500	
320EWT27-0060-D6	409900 E	1	6	30	300	
320EWT27-0022-DM6	409901 B	0.4	2.2	80	800	
320EWT27-0035-DM6	409901 C	0.7	3.5	50	500	
320EWT27-0060-DM6	409901 E	1	6	30	300	
320EWT36-0060-F6	411307 B	1	6	75	750	
320EWT36-0120-F6	411307 C	2	12	40	400	
320EWT36-0060-D6	410934 B	1	6	75	750	
320EWT36-0120-D6	410934 C	2	12	40	400	
320EWT36-0060-DM6	411301 B	1	6	75	750	
320EWT36-0120-DM6	411301 C	2	12	40	400	

Required accessories for EC screwdrivers:
Sequence controller, motor cable and power supply cable.
For technical details see brochure D3490 E or page 18/19 of this catalogue.

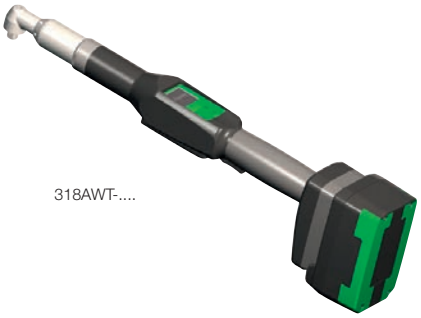
*) as per VDI/VDE 2647 Directive

Remark: All EC Screwdrivers in straight version are also available with trigger start. Please see brochure D3490E.

MINIMAT-EC-Cordless Screwdriver for assembly in confined spaces

Type	Part no.	Torque min. Nm	Torque max. Nm	Speed min. rpm	Speed max. rpm	Drive
angle head, trigger-start (square male)						
318AWT-0050	416000 D	1	5	100	1000	¼"
318AWT-0120	416000 A	2	12	50	780	3/8"
318AWT-0210	416000 B	5	21	30	430	
318AWT-0320	416000 C	7	32	30	280	
318AWT-0500	416000 E	12	50	30	185	

Required accessories for Cordless Angle Nutrunner: Rechargeable battery and Charger
For technical details see brochure D3710E.



318AWT-....

MINIMAT-EC Cordless Screwdriver for horizontal assembly joints

Type	Part no.	Torque min. Nm	Torque max. Nm	Speed min. rpm	Speed max. rpm	Drive
pistol grip, trigger-start (hex. female)						
318APT-0040	955500 A	0.8	4.0	90	1500	1/4"
318APT-0080	955500 B	1.6	8.0	50	800	
318APT-0130	955500 E	2.6	13.0	30	500	

Required accessories for MINIMAT-EC Cordless screwdriver: Rechargeable battery and Charger
For technical details see brochure D3710E.

318APT-....

MINIMAT-ED Digital Electric Srewdriver with integrated electromagnetic shut-off clutch

Type	Part no.	Torque min. Nm	Torque max. Nm	Speed rpm	Drive
straight, trigger-start or push-to-start (hex. female)					
345EG36-0050	400036 G	1	5	500	1/4"
345EG36-0030	400036 H	0.6	3	810	
345EG36-0018	400036 I	0.3	1.8	500	
pistol-grip, trigger-start or push-to-start (hex. female)					
345EP36-0050	410455 G	1	5	500	1/4"
345EP36-0030	410455 H	0.6	3	810	
345EP36-0018	410455 I	0.3	1.8	500	

Required accessories for Digital screwdrivers: Power supply, motor cable and power supply cable
For technical details see brochure D3495 E.

345 EG36-..

MINIMAT-EC-Servo Screwdriver

Type	Part no.	Torque min. Nm	Torque max. Nm	Speed min. rpm	Speed max. rpm
angle head design					
315 EWT58-0600-E12	399853 A	12	60	25	550
315 EWT58-0350-E10	399853 B	7	35	50	800
315 EWT58-1200-E12	399853 C	25	120	15	250

Required accessories for EC-servo screwdrivers:
Sequence controller and motor cable. For technical details see brochure D3497 E or page 18/19 of this catalogue.

315 EWT58-..

SCREWDRIVER SPINDLES PNEUMATIC with mechanical shut-off clutch

345-3008-31
to
345-7008-31

345-308-31
to
345-508-31

347-228-31
to
347-528-31

346-338-31
with Off-Set-Gear

NANOMAT / MICROMAT / MINIMAT Screwdriver Spindles

Type	Part no.	Torque min. Nm	Torque max. soft pull-up Nm	Torque max. hard pull-up Nm	Speed, idling rpm	Drive	Weight kilos
Control Screwdrivers, right rotation, push-to-start (hex. female)							
345-3008-31	204000 C	0.01	0.15	0.15	1600	3 mm	0.14
345-5008-31	204000 E	0.008	0.25	0.25	775		0.14
345-6008-31	204000 F	0.008	0.30	0.30	590		0.14
345-7008-31	204000 G	0.008	0.30	0.30	340		0.14
345-308-31	339271 A	0.02	0.5	0.6	1600		0.18
345-408-31	345765 A	0.02	0.55	0.55	1100		0.18
345-708-31	385138 A	0.02	0.7	0.7	650		0.19
345-508-31	339271 B	0.02	0.7	0.7	350		0.19
347-218-31	397066 A	0.3	1	1	1900	1/4"	0.5
347-318-31	397066 B	0.3	1.4	1.4	1300		0.5
347-518-31	397066 C	0.2	2	2	900		0.5
347-618-31	397066 D	0.2	2	2	600		0.55
347-228-31	386369 A	0.5	1.6	2.2	4000		0.89
347-328-31	386369 B	0.4	3	3.5	1550		0.89
347-528-31	386369 C	0.3	5	5	680		0.89
346-238-31	406109 B	2	5	6	2500		1.5
346-738-31	406109 C	2	8	9	1400		1.6
346-338-31	406109 D	2	14	14	800		1.6
346-438-31	406109 E	2	20	20	400		1.6
344-340-31[3])	389730 A	4	8	8	2800	7/16"	2.5
344-440-31[3])	389730 B	4	10	10	2100		2.5
344-740-31[3])	389730 C	16	34	34	640		2.65
344-840-31[3])	389730 D	16	45	45	450		2.65
344-940-31	404623 B	40	85	85	250	1/2"	6
344-140-31	404623 C	40	130	130	160		6
344-240-31	404623 D	40	180	180	115		6
Control Screwdrivers for Off-Set / Reduction Gear, right rotation, push-to-start							
347-228-31 LV	388645 A						
for Off-Set Gear	388649 A	0.5	1.5	2	4200	1/4" [1]	1.34
347-328-31 LV	388645 B						
for Off-Set Gear	388649 A	0.4	2.8	3.3	1700		1.34
347-528-31 LV	388645 C						
for Off-Set Gear	388649 A	0.3	4.7	4.7	750		1.34
346-738-31 LV	401068 C						
for Off-Set Gear	401236 B	2.6	9	9	1050		3
346-338-31 LV	401068 D						
for Off-Set Gear	401236 B	2.6	15	15	600		3
346-438-31 LV	401068 E						
for Off-Set Gear	401236 B	2.6	20	20	300		3
346-338-31	406109 D						
for Off-Set Gear	407204 A	4	42	42	200	3/8" [2]	3.2
for Off-Set Gear	3331781A	6	62	62	130	1/2" [2]	4.1
346-438-31	406109 E						
for Off-Set Gear	407204 A	4	72	72	100	3/8" [2]	3.2
for Off-Set Gear	3331781A	6	105	105	60	1/2" [2]	4.1
for Off-Set Gear	3431551A	7	140	140	50	1/2" [2]	4.4

[1]) hex. female [2]) square male [3]) with Remote-Start Performance data relate to an air pressure of 6.3 bar (90 psi)

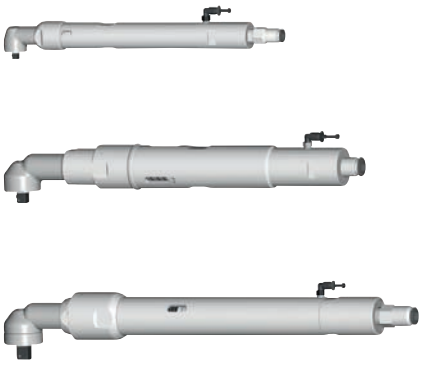
SCREWDRIVER SPINDLES PNEUMATIC with mechanical shut-off clutch

MINIMAT Screwdriver Spindles

Type	Part no.	Torque min. Nm	Torque max. Nm	Speed max. rpm	Drive	Weight kilos
Control Screwdrivers, angle head, right rotation, remote start (square male)						
377-320-7-E6.3	200616 B	0.4	3.6	1070	1/4" 1)	0.9
377-420-7-E6.3	200616 D	0.4	4.5	710	1/4" 1)	0.9
377-520-7-E6.3	200616 C	0.3	6.5	470	1/4" 1)	0.9
377-230-7-E10	200941 B	4	7	1500	3/8"	1.9
377-730-7-E10	200941 C	4	12	840	3/8"	1.9
377-330-7-E10	200941 D	4	20	450	3/8"	1.9
377-430-7-E10	200941 E	4	35	240	3/8"	1.9
377-740-7-E12.5	200662 C	20	48	390	1/2"	2.7
377-840-7-E12.5	200662 D	20	67	270	1/2"	2.7

1) also available with hex. female

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



377-320-7-E6,3
to
377-840-7-E12,5

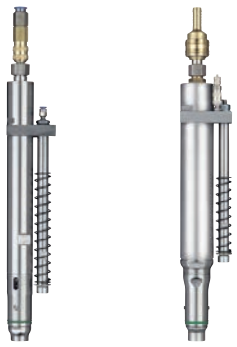
All Screwdriver Spindles in angle head design are also available with reversible operation.

SCREWDRIVER SPINDLES PNEUMATIC with controlled clutch function

SENSOMAT Screwdriver Spindles

Type	Part no.	Seating Torque min. Nm	Seating Torque max. Nm	Driving Torque max. Nm	Speed idling rpm	Weight kilos
SENSOMAT, right rotation, push-to-start (hex. female), 1/4"						
347S-228-31	391488 A	0.5	1.6	2	4000	0.9
347S-328-31	391488 B	0.4	3	3.3	1550	0.9
347S-528-31	391488 C	0.3	5	5.5	680	0.9
346S-238-31	409280 B	0.5	4	4.5	2500	1.3
346S-738-31	409280 C	0.5	5	7	1400	1.3

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



Remark: All pneumatic Screwdriver Spindles are also available with left-rotation, reversible and remote-start operation.

310 E 56-...

MINIMAT-EC-Servo Screwdriver Spindles

Type	Part no.	Torque min. Nm	Torque max. Nm	Speed min. rpm	Speed max. rpm	Drive	Weight kilos
EC-Screwdrivers with Torque- and Angle Transducer, reversible (square male)							
310 E 56-140	390004 C	25	140	10	300	1/2"	7.3
310 E 56-270	389520 E	50	270	5	100	3/4"	7.7
EC-Screwdrivers with Torque- and Angle Transducer (hex. female)							
311E27-0010	413400 A	0.2	1	100	2000	1/4"	1.2
311E27-0020	413400 B	0.4	2	60	1500		1.2
311E27-0050	413400 C	1	5	40	800		1.2
311E27-0120	413400 E	2.4	12	20	400		1.2
311E36-0150	205000 A	3	15	50	1000		2.8
311E36-0300	205000 C	6	30	30	600	7/16"	2.8
311E36-0500	205000 D	10	50	20	380		2.8
311E42-0300	206000 B	6	30	50	890		4.2
311E42-0800	206000 D	16	80	20	330		4.2

311 E 27-...

311 E 36-...

320E12-0012

320E19-... 320E22-... 320E27-... 320E36-...

NANOMAT-EC / MICROMAT-EC / MINIMAT-EC Screwdriver Spindles

Type	Part no.	Torque min. Nm	Torque max.*) Nm	Speed min. rpm	Speed max.*) rpm	Drive
EC-Screwdrivers (hex. female)						
320E12-0012	420400 B	0.02	0.12	120	1500	3 mm
320E19-0002	405024 A	0.03	0.2	150	1500	
320E19-0005	405024 C	0.08	0.5	120	1200	
320E19-0008	405024 B	0.15	0.8	100	1000	
320E22-00120	420988 D	0.24	1.2	50	900	1/4"
320E22-00200	420988 E	0.4	2.0	30	550	
320E27-0010-D	416500 B	0.15	1.0	50	1000	3 mm
320E27-0018-D	416500 H	0.4	1.8	100	1000	1/4"
320E27-0024-D	416500 C	0.4	2.4	50	700	
320E27-0042-D	416500 D	0.7	4.2	40	400	
320E36-0040-D	416600 E	0.5	4	100	1000	
320E36-0060-D	416600 A	1	6	70	740	
320E36-0090-D	416600 F	2	9	50	550	
320E36-0120-D	416600 B	2	12	35	380	
320E36-0180-D	416600 C	3	18	25	280	

*) as per VDI/VDE 2647 Directive

Required Accessories for: NANOMAT-EC / MICROMAT-EC / MINIMAT-EC and MINIMAT-EC Servo screwdriver spindles: Controller → Page 18/19 of this catalogue

Measuring Instruments for manual use

Designation	Type	Measuring range Power Supply	Electric	Remark
Measuring electronic	ME 5000	see transducer	Rechargeable Battery with Docking Station Battery charger	Value Display
Measuring electronic	ME 5400 ME 6000	see transducer	Power Unit 100 up to 240 Volt (50 or 60 Hz)	Value Display external standard PC-Monitor
Measuring electronic	ME 5600	see transducer	Power Supply 85 up to 264 Volt (50 or 60 Hz)	Value Display LC-Display graphic Touch Screen

Measuring electronic ME 5000 with Docking Station

ME 5400
ME 6000

ME 5600

Torque-Transducers for measuring instruments

Designation	Type	Part no.	Measuring range Nm
Piezo-electric (PE) transducers			
Torque-Dynamometer	MP 1 PE	408000 C	0.1 - 1
	MP 25 PE	360850 A	2.5 - 25
	MP 200 PE	373205 A	20 - 200
	MP 1000 PE	408000 A	50 - 500
Torque-Wrench	MS 25 PE-W	346217 A	2.5 - 25
	MS 25 PE-WS	346217 C	2.5 - 25
Strain gage (DMS) transducers			
Torque-Dynamometer	MP 2 DMS	385200 B	0.2 - 2
	MP 7 DMS	385200 A	1.05 - 7
	MP 25 DMS	385200 C	2.5 - 25
	MP 160 DMS	385200 D	16 - 160
	MP 500 DMS	408088 A	50 - 500
Torque-Wrench	MS 2 DMS	387798 B	0.2 - 2
	MS 7 DMS	387798 A	1.05 - 7
	MS 7 DMS-W	388050 A	1.05 - 7
	MS 25 DMS-W	388050 C	2.5 - 25
Offset torque transducers			
Torque transducer	V002-E6.3/F6.3	385481 B	0.2 to 2 (pos./neg.)
	V005-E6.3/F6.3	385481 C	0.5 to 5 (pos./neg.)
	V010-E6.3/F6.3	385481 D	1 to 10 (pos./neg.)
	V020-E6.3/F6.3	385481 E	2 to 20 (pos./neg.)

Torque-Dynamometer

Torque-Wrench

Offset Torque transducer

Mechanical Torque-Wrenches with manual indicator

Part no.	Measuring range Nm	Increment Nm	Drive (square male)
804686	0 - 3.4	0.1	1/4"
804687	0 - 8.4	0.2	1/4"
804688	0 - 17	0.5	3/8"
804689	0 - 60	1	3/8"

Mechanical Torque Wrench

CONTROLLER TECHNOLOGY - Screwdriving controllers - AST

Next to the screwdriver, the screwdriving controller is the most important component of an electronic screwdriving system. It controls the EC drive of the screwdriver according to the parameters of the screwdriving sequence, it evaluates measurement signals and provides all operating and documentation functions.
The available systems - EC and EC servo, both equipped with highly dynamic brushless servo motors, differ in the way they generate torque measurement values. Whilst the EC technology of the controllers AST5, AST6 and AST10 are based on the exact motor current measurement, in the EC servo system of the controller AST30 or AST40 the signals of the measurement transducer integrated into the tool are evaluated.

AST5

Screwdriving controller Type AST5

- Torque range: 0.03 Nm - 2.0 Nm
- For MICROMAT-EC and MINIMAT-EC handheld screwdrivers (further details → D3490E)
- Number of multi-level screw sequences: 100
- Documentation options: internal storage, output via Ethernet (Datalogger, http)
- Operator friendly colour touch screen for direct entry of screw sequences and tightening parameters, graphic portrayal of screwdriving graphs
- Small size to fit in manual work stations

AST6

Screwdriving controller Type AST6 / ASTi6

- Torque range: 0.02 - 0.2 Nm
- For NANOMAT-EC and MICROMAT-EC screwdriver spindles (further details → D3165E)
- Number of multi-level screw sequences: 100
- Documentation options: internal storage, output via Ethernet (Datalogger, http)
- Operator friendly colour touch screen for direct entry of screw sequences and tightening parameters, graphic portrayal of screwdriving graphs
- Small size for confined spaces

ASTi6

ASTi6 without display, for installation into a switch cabinet

Screwdriving controller Type AST11


AST1

- Torque range: 0.03 - 25 Nm
- For MICROMAT-EC and MINIMAT-EC screwdrivers handheld and screwdriver spindles (further details → D3490E or D3165E)
- Number of multi-level screw sequences: 16
- Documentation options: internal storage, output via Ethernet (Datalogger, http), adjustable printer interface
- PLC interface: inputs/outputs
- Integrated RS232 port with varied options:
  - 4 fieldbuses available: Profibus, Profinet, EtherCat, EthernetIP
  - direct connection of a barcode scanner
  - connection of a serial printer

Screwdriving controller Type AST30


AST30

- Torque range: 0.2 - 270 Nm
- For MINIMAT-EC-SERVO screwdriver spindles (further details → D3160E)
- Number of multi-level screw sequences: 32
- Documentation options: internal storage, output via RS232 or Ethernet (Datalogger), printer interface
- PLC interface: input/output, Profibus

Screwdriving controller Type AST40 / ASTi40


AST40

- Torque range: 0.2 - 80 Nm
- For MINIMAT-EC-SERVO screwdriver spindles (further details → D3161E)
- Number of multi-level screw sequences: 120 (via input/output interface)
- Documentation options: internal storage, output via RS232 or Ethernet (Datalogger), printer interface
- PLC interface: input/output, Profibus, Profinet, EtherCAT, EthernetIP


ASTi40

ASTi40 without display, for installation into a switch cabinet

CONTROLLER TECHNOLOGY

Function control - fc

The function control increases the processing reliability of manual screwdriving assembly. It enables monitoring of every single screw assembly and guarantees the success of the screw connection on the component.

fc11

fc20

Screwdriver controller fc11

The screwdriving function controller fc11 and the handheld screwdriver MICROMAT-F/MINIMAT-F provide the intelligent solution for your processing reliability.
The screw system counts your assemblies, monitors their times, shuts-off only upon reaching torque, recognises work piece exchange and is 100 % self-checking.

Screwdriver controller fc20

The functions control fc20 also enables the monitoring of complex assembly processes through programmable sequences. This screwdriver controller can control up to three screwdrivers of differing types. The use of the fc20 allows you high flexibility for various screwdriving requirements on one component.

FEEDING SYSTEMS

Vibratory Bowl Feeders

1611/0.75

1511-ES/2.5

1511-ES/0.15

Sword Feeders

1811-1.5-x

ERGOMAT-Z

DEPRAG FEED MODULE

Vibratory Bowl Feeders and Sword Feeders for handheld Drivers and Press-In Tools

Type	Number of screw-drivers	Filling capacity l	max. Head dia. mm	max. Shaft length mm	Shaft dia. from - to mm	Power source AC
1511-ES/0.15	1	0.15	5	8	1 - 2.5	230 V/115 V
1522-ES/0.15	2	0.15	4	8	1 - 2.5	
1611/0.75	1	0.75	12	35	1.5 - 6.3	
1622/0.75	2	0.75	8	25	2 - 6.3	
1611/1.2	1	1.2	12	50	3 - 7	
1511-ES/2.5	1	2.5	14	60	4 - 10	
1522-ES/2.5	2	2.5	14	50	4 - 10	
1811-ES/0.15-x	1	0.15	5	8	1 - 2.5	
1811-1.5-x	1	1.5	12	25	2 - 6.3	

ERGOMAT-Z the stroke screwdriver for feeding machines

Type	Part no.	Torque min. Nm	Torque max. Nm	Speed, idling rpm	Drive	Screws	Weight kilos
347 V-218	406859 A	0,3	1	1900	1/4"	M 3	0,8
347 V-318	406859 B	0,3	1,4	1300		M 3	0,8
347 V-518	406859 C	0,2	2	900		M 3	0,8
347 V-718	406859 G	0,2	2,5	640		M 4	0,8

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

DEPRAG FEED MODULE - DFM

DEPRAG FEED MODULE (DFM) version 1	1 stroke, screw assembly via nosepiece, stroke 60mm, max. vertical pressure 120N
DEPRAG FEED MODULE (DFM) version 2	2 strokes, vacuum-supported screw/nut assembly, stroke 60mm, max. vertical pressure 120N

Please find more informations about the DEPRAG FEED MODULE in our brochure D3820E.

Press-In Tools for feeding systems

Type	Parts to be transported	Remark
EDG-..	Rivets, Dowel Pins Pins, Bushings	with one press-in stroke
EDGZ-..-..		with one press-in stroke and one additional locking stroke

Press-In Tools

Screwfeeding Machines for stationary use

Type	Number of screw-drivers	Filling capacity l	max. Head dia mm	max. Shaft length mm	Shaft dia. from - to mm	Power source AC
06. .	1	0.05	3	8	0.6 - 2.0	230 V/115 V
05. .	1 - 6	0.15	5	8	1 - 2.5	
06. .	1 - 6	0.75	8 / 12	35	1.6 - 6.3	
06. .	1 - 6	1.2	16	50	3 - 7	
05. .	1 - 6	2.5	14 / 16	50	4 - 8	
05. .	1 - 6	6	30	100	8 - 16	
05. .	1 - 4	12	30/40	120/130	12 - 18 14 - 20	
08..	1	0.15	5	8	1 - 2.5	
08. .	1 - 6	1.5	12	25	2 - 6.3	

Nut Feeders for stationary use

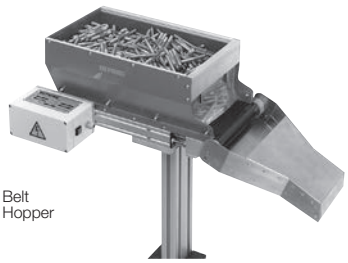
Type	Number of screw-drivers	Filling capacity l	Across Flats mm	Female Thread mm	max. Nut height mm	Power source AC
06. .	1 / 2 / 4	0.75	4/5.5 - 8	3 - 5	5	230 V/115 V
05. .	1 / 2 / 4	2.5	5.5 - 13/17	3 - 8	8	

Vibratory Bowl Feeders

Feeders for small components for stationary use

Type	Number of Outlets	Filling capacity l	Parts to be transported	Power source AC
06. .	1	0.75	Rivets, Bolts, Pin, Washers	230 V/115 V
05. .	1	2.5	Sleeve etc.	
08. .	1	1.5	Tooling Parts, Balls	

Screwfeeding Machines for automated Assembly Units can be supplied with or without magnetic valves, as well as with electronic sequence control integrated.



Belt Hopper

Supply systems - Linear hoppers for feeding systems

Type	Part no.	Filling capacity l	Operating Voltage DC
B 10	415050 A	10	24 V
B 20	418247 A	20	24 V

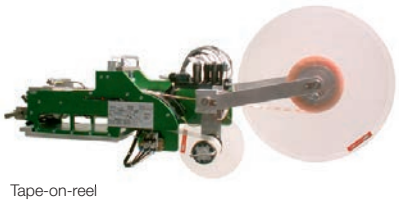
Screw-Presenters

Type	Number of screw-drivers	Filling capacity l	Shaft dia. from - to mm	Shaft length from - to mm	Operating Voltage DC	Remark
SG 1211-. .	1	0.1	1.4 - 5	2 - 25	12	for handheld Screwdrivers
SG 0211-. .	1	0.1	1.4 - 5	2 - 18	12	for stationary Screwdrivers

Screw-Presenters

Tape-on-reel

Type	Suitable components	Operating Voltage
0111-. .	single- and double-sided adhesive components	24 V



Tape-on-reel

SCREWDRIVING AND ASSEMBLY SYSTEMS

From highly automated large-scale systems, fully automated assembly lines, standardised assembly cells up to partially automated reliable manual work stations we offer an enormous range of automation solutions for the most varied of industries:

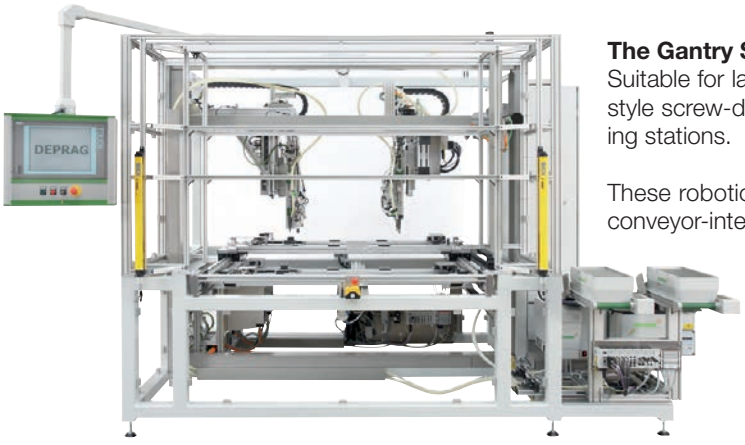
- Electronics industry, information technology and telecommunication
- Automobile industry
- Vehicle manufacture, Aircraft manufacture
- Household goods
- Medical technology
- Tool manufacture
- Sanitation technology
- Food industry
- Machine construction
- etc.

Screwdriving and assembly systems for efficient automatic production.

DEPRAG - Your one stop shop, we take full responsibility for your complete system!
Take a look at our capabilities and range from numerous application examples andcustomer references!

- one stop shop
- reliable
- efficient
- economical
- high level of reusability

Application examples



The Gantry Screwdriving Cell:
Suitable for larger work areas (up to 2.0 m x 1.5 m / 6.6 x 5.0 ft.), a gantry style screw-driving cell can be equipped with several individual screwdriving stations.

These robotic screwdrivers can be used in individual workstations or in a conveyor-integrated system.

The complete Assembly Cell

When looking for assembly tasks beyond screwdriving, DEPRAG offers complete assembly cells that can include welding, coil-winding, etc.

Such a station will include all necessary feeding, handling, pick & place, as well as the complete control functions.

STANDARDISED ASSEMBLY SYSTEMS

Screwdriving, labelling, palettising, clipping, pressing in, laser engraving, ultrasonic welding, testing, gluing...
DEPRAG assembly modules enable the low-cost realisation of numerous functions.

We make use of our modular system in the creation of your assembly cells:

DCAM

DEPRAG COMPACT ASSEMBLY MODULE

The compact machine system with standardised base structure and integrated positioning and sequence controller.

FULLY EQUIPPED MANUAL WORK STATIONS

“Smart Work Benches" combine manual handling with processing reliability to equal automatic production.

DEPRAG has a comprehensive range of sophisticated standard modules which are used to create precise, economical, and ergonomic manual work stations.

These tried and tested components which can be combined to make a system of high reliability, allow flexible worker change-over without sacrificing quality.

Please find more informations in our brochure D3390E.

Controller technology

CONTROL SYSTEM AND PROCESS CONTROLLER DCOS (DEPRAG CONTROLLER SYSTEM)

The controller system DCOS (DEPRAG CONTOLLER SYSTEM) is designed to fulfil the highest requirements. It is particularly user friendly and has high functionality. The DCOS controls, records, documents and analyses.

The integrated networkability enables unproblematic connection to SCADA and MES systems, optimal data administration and storage and above all, the access to common PC applications such as browsers, data back-up and remote access opens up almost infinite user possibilities.

A DCOS consists of:
- the control and operating unit
- the control cabinet
- and standardised software packages

Control and operating unit

Control unit DPU **D**EPRAG **P**ROCESSING **U**NIT	**DPU010 (C)**	**DPU050**	**DPU100**	**DPU200**

The DPU series controllers are based on an industrial PC. The compact controllers DPU010, DPU050, DPU100 run on the Windows CE operating system whereas the DPU200 uses Windows XP.
The DPUs control complex motion sequences with extremely short cycle times (typically < 6 ms). A colour touch screen with VGA resolution (except on the DPU010) enables high level user comfort in the operation and display of operating conditions. Two USB ports allow the user to connect additional peripheral devices with ease. The DPU can access the company network or world wide web via the freely accessible Ethernet port.

Control cabinet

Control cabinet DSEC **DE**PRAG **S**AFETY **E**XTENSION **C**ONTROL**LER**	**DSEC10**	**DSEC20**	**DSEC30**	**DSEC40**

As well as the DPU a control cabinet such as DSEC10, DSEC20, DSEC30 or DSEC40 is used, depending on the control task. These each contain 32 digital inputs and outputs which are connected to the DPU via the modern Ethercat field bus. A 24V DC voltage supply is already integrated in the DSEC to supply the control components (DPU, sensors and actuators etc.). To meet the safety function requirements the DSEC10 and DSEC20 both include two inbuilt safety relays.
Both control cabinets DSEC30 and DSEC40 are equipped with freely programmable compact safety controllers enabling highly complex safety functions.

Software Packages

DFUN	**DVIP**	**DPRO**	**DAST**	**DSPEC**
DFUN10 Part no. 815454		DPRO10 Part no. 815632		
DFUN50 Part no. 815455	DVIP50 Part no. 815629	DPRO50 Part no. 815633		Part no. based upon order
DFUN100 Part no. 815456	DVIP100 Part no. 815630	DPRO100 Part no. 815634	DAST100 Part no. 815641	
DFUN200 Part no. 815457	DVIP200 Part no. 815631	DPRO200 Part no. 815635	DAST200 Part no. 815642	
The basic software package regulates the functions of your system components. The functionality matches the performance capability of the relevant system control.	The software package for visualisation and positioning. Operator guidance on the positioning control necessitates processing and sequencing visualisation. The functionality matches the performance capability of the relevant system control.	This software package supports the process control through BDE, MDE and MES connections. The functionality matches the performance capability of the relevant system control.	The software-panel for EC and EC Servo Systems. DAST is used to supervise the operation and visualization of the screwdriver sequence controller (AST series) through the system control. The functionality matches the performance capability of the relevant system control.	For the regulation of customer specific applications. DSPEC is required when actions and functions are used which are not covered by the software packages DFUN, DVIP and DPRO.

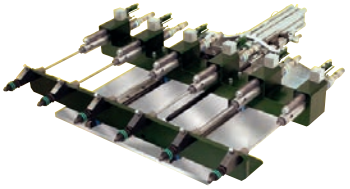
Feeding technology
→ Page 20 / 21

Measuring Technology
→ Page 17

Please find more informations in our brochures D3350E and D3355E.

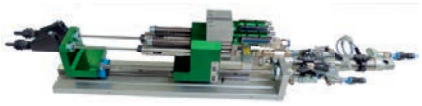
Screwdriving function module

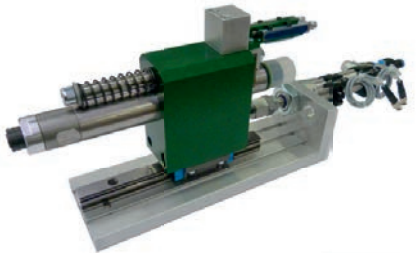
Screwdriving function module for automated screw assembly
Screwdriving function modules make up the base for every reliable, automated screw assembly. You also profit from our many years of experience in screwdriving technology and assembly automation.
We offer both single spindle and multi-spindle units.



Wide variety for all applications
DEPRAG screwdriving function modules are extremely varied. For every application we have a suitable solution. For example our designs span a large torque range and single or multi-spindle units are available in various forms.

The modular designs of our screwdriving units are based on six different standard forms:
Normal
slim design for horizontal screw assembly or assembly from above
Short design
for tight working spaces
Under floor design
for vertical screw assembly from below
Vacuum design
for difficult to access or recessed screw positions in any screw direction
Pick & Place design
for connection elements with defined pick position
Nut design
for automatic feeding and assembly of nuts





Screwdriver Spindles → Page 14 / 15 / 16

Please find more informations in our brochure D3310E.

AIR MOTORS

Air motors are safe and robust drive systems which come into play when a resilient, overload-safe, high performance drive is required. Always ready for action long after traditional drive technologies have stopped rotating.

Advantages: **explosion proof high longevity service-friendly stainless steel compact sterilisable**

A wide range of motors is available, such as oil-free, fully sealed, cleaning agent resistant motors for use in the food industry; sterilisable motors for medical technology; motors for use under special conditions such as the resilient drain milling robot drive; and our ATEX-conform complete system of air motor - holding brake - gearing for use in potentially explosive environments. We will find the safest and most economical drive solution for your individual application, whether it is an air motor from our catalogue or a complex system solution.

PRODUCT SPECTRUM

Air vane motors

- BASIC LINE
- ADVANCED LINE
- POWER LINE
- INDIVIDUAL LINE
- Drill motors, Milling motors, Grinding motors
- Motors with integrated holding brake

Turbines

- Turbine production according to your specific application
- Innovative turbine generator: Harnessing power from small amounts of process gas

Tooth-gear motors

Tooth-gear motors can be individually designed according to your requirements.

Speed regulator

Innovative system solution to offset speed fluctuations.

Accessories

Maintenance units, special oil, pressure hoses, silencer, pressure regulator valves, etc. can be found in our product catalogue D3340 E.

AIR VANE MOTORS

BASIC LINE

Our great value for money model for use in non-critical production environments.
Additional benefit:
You save production time with our patented vane exchange system!

Power range:
200 - 1200 W
Your advantages:
- ATEX certified
- patented vane exchange system
- wide speed range
- reversible
- robust design

D6200 E

ADVANCED LINE

Our product line of stainless steel motors stands out from the rest with its comprehensive range of sealed, oil-free operable, non-corrosive air motors. Particularly suitable for use in the paper industry, food processing industry, for medical technology and much more…

Power range:
20 - 1200 W
Your advantages:
- ATEX certified
- non-corrosive
- oil-free operable
- sealed
- reversible
- integrated holding brake design
- high performance, small size

D6400 E

AIR VANE MOTORS

Our product line of high performance bracket and flange motors also features wide versatility. The high starting torque with an unparalleled low performance weight, the robust and reliable design are all clear advantages in comparison with an electric drive.

Power range:
1.6 - 18 kW
Your advantages:
- high performance
- high starting torque
- low performance weight
- robust, reliable design
- long life-span

D6600 E

POWER LINE

Individual customisation
Great value customisation based on our modular principle, from individually designed motors to customer specific package deals, up to complete system solutions.

Your advantage:
- attractive price-performance ratio

INDIVIDUAL LINE

AIR VANE MOTORS FOR SPECIAL APPLICATIONS

Our efficient drill motors with slim design allow the smallest of drill spacings when using multi-spindle units, such as for the construction of windows.

Power range:
170 - 600 W
Speed range:
150 - 24,000 rpm
Your advantages:
- high precision drill chuck with taper fitting

D6800 E

Drill Motors

Our durable milling motors are particularly suitable for robot applications:
space saving and high performance with high speed ranges.

Power range:
400 W
Speed range:
max. 20,000 rpm
Your advantages:
- robust and precise bearing
- high running precision

D6800 E

Milling Motors

Our grinding motors programme offers the advantages of the reliable handheld DEPRAG air grinding machines as an integrated version for your machine.
The robust steel housing guarantees high precision and operational safety.

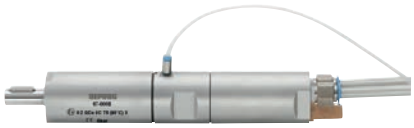
Power range:
150 - 1000 W
Speed range:
15,300 - 47,000 rpm
Your advantages:
- high precision collet for various shaft diameters
- high running accuracy

D6800 E

Grinding Motors

AIR VANE MOTORS

Motors with integrated holding brake



The great value complete solution: Customers benefit from our standard program of vane motors with integrated brake equipment.

Available for the series 67 and 68 from 200 W – 3.6 kW.

Advantage of planetary gears:
- effective holding of a large centrifugal mass
- automatic brake by pressure drop
- drive spindle can be held in position without air consumption

D6400 E / D6600 E

Gear Motors

Due to the high speeds of air motors, gears are often necessary for speed adjustment when used in a machine.
DEPRAG saves systems constructors the time and effort of laborious design work and interface adaptation between gears and air motor.
Our range already consists of a variety of standard motors with high quality integrated gears at a favourable price-performance ratio. If you cannot find a suitable air motor in our catalogue we also offer several low-cost combinations of air motors and gears.

Advantages of planetary gears:
- compact design
- high degree of efficiency
- optional installation position
- gear ratio 5 - 50

Advantages of spur gears:
- good value for money
- gear ratio: optional (i = 7 - 238)

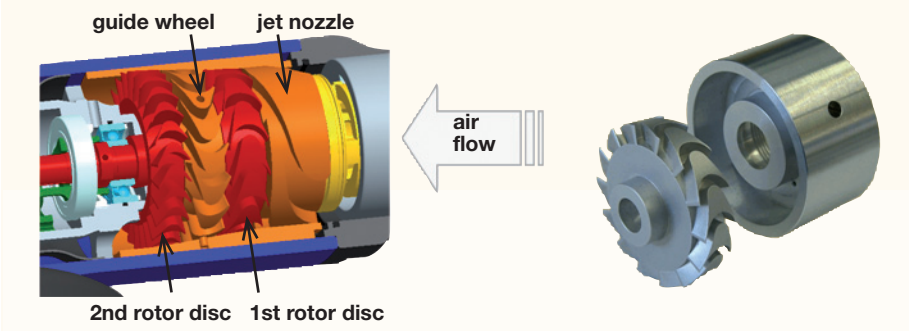
Advantages of worm gears:
- good value for money
- compact design
- high gear ratio possible in one step from 14 - 80
- self-locking

TURBINES

Our turbines are energy efficient, high speed drives which are suitable for continuous use and have an optimal performance weight and guarantee low air consumption. Each turbine is fluid-dynamically designed, calculated and individually produced specific to your application.

Function of a turbine

Turbines are turbo machines which can be designed to be single level or multi-level.
The transformation of pressure energy into kinetic energy happens in the entry jet. On a two level turbine the largest part of the kinetic energy is transferred to the first rotor disc. The air flow is diverted over the fixed rotor disc. The remaining energy is transferred to the second rotor disc.



The turbine does not need any tangential sealing. Operation of the turbine with oil-free air is therefore completely wear free. Turbo machines optimally use the energy of pressurised air. This reduces the air consumption by a third in comparison with an air motor. The performance weight [kilos/kW] is only half as big.

Application examples of our turbine drives

Application of turbines for energy reclamation

Our turbine generator enables power to be reclaimed from small amounts of process gas.
With a small investment you can turn used energy into hard cash!

Application of turbines for aircraft emergency exits

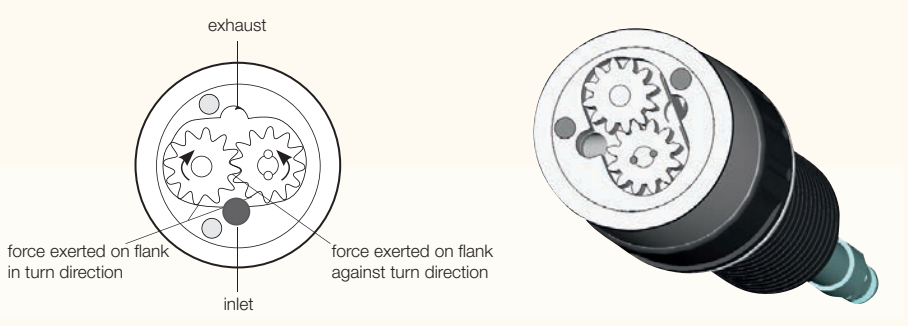
A pyrotechnic ignition indirect turbine drive with reduction gear in PYROTAK emergency door activator provides high power density in a small package.

TOOTH-GEAR MOTORS

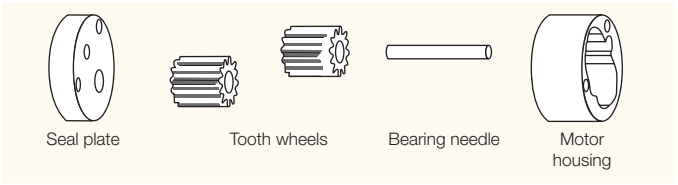
Our tooth-gear motors provide made-to-measure drive solutions for your individual application needs.

Function of the Tooth-Gear Motor

Tooth-gear motors consist of two tooth wheels which turn with little play within a housing. One wheel is connected to rotate with the drive shaft, the other generates torque. Force is exerted on two flanks in the turn direction and one flank against the turn direction. Exhaust air builds up in chambers between the tooth flanks and housing wall, then is guided to the exhaust side and rotational movement is generated.



Structure of a Tooth-Gear Motor

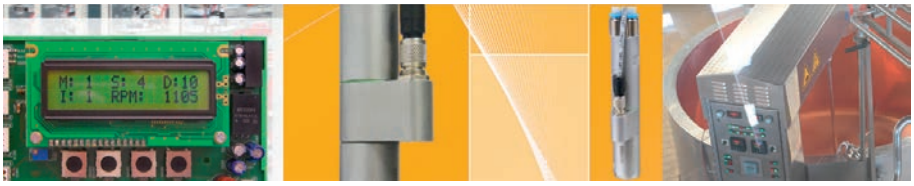


DEPRAG tooth-gear motors are oil-free operated.

SPEED REGULATOR

Innovative system solution to offset speed fluctuations.

- universally applicable due to parameter options
- wide range up to 80,000 1/min
- precise, high resolution controller



ACCESSORIES

- designed for DEPRAG air motors
- service friendly
- economical

Maintenance units, special oil, pressure regulator valves, pressure hoses, hose clamps and connectors can be found in our product catalogue D3340E.

You can find the compatible silencer for your air motor in our motor catalogues.
Compatible valves for the reversal and speed regulator can be purchased from any valve manufacturer.

LISTING OF INDIVIDUAL CATALOGUES

SCREWDRIVING TECHNOLOGY

Handheld Screwdrivers pneumatic

D 3415 NANOMAT
D 3420 MICROMAT
D 3421 MICROMAT / MINIMAT - ESD straight
D 3430 MINIMAT, straight
D 3435 MINIMAT, pistol grip
D 3440 MICROMAT-F / MINIMAT-F Screwdriving System
D 3450 MINIMAT, angle head design
D 3460 SENSOMAT

Handheld Screwdrivers pneumatic for special applications

D 3520 VARIOMAT
D 3530 Recycling Drivers
D 3540 Slip clutch Screwdrivers
D 3550 Flat head Wrenches
D 3570 Impulse Driver, without shut-off
D 3571 Impulse Driver, with shut-off
D 3470 MINIMAT-T

Handheld Screwdrivers electronic

D 3480 Electric Screwdrivers
D 3484 Cordless Screwdrivers
D 3487 Cordless Impact Wrenches
D 3490 MICROMAT-EC / MINIMAT-EC
D 3497 MINIMAT-EC-Servo, angle head design
D 3495 MINIMAT-ED, Digital Electric Screwdriver
D 3710 MINIMAT-EC-Cordless Screwdriver, angle head design, pistol grip

Screwdriver Spindles pneumatic

D 3125 NANOMAT, Control Screwdriver
D 3130 MICROMAT / MINIMAT Control Screwdriver
D 3135 MINIMAT Control Screwdriver angle head design
D 3140 SENSOMAT

Screwdriver Spindles electronic

D 3160 MINIMAT-EC-Servo
D 3161 MINIMAT-EC-Servo
D 3165 NANOMAT-EC / MICROMAT-EC / MINIMAT-EC

Measuring Technology

D 3020 Torque Transducers
D 3022 Torque Measuring Instruments for manual use

Feeding Technology

D 3820 Screw feeding systems for manual use
D 3821 Press-in Devices
D 3830 Screw feeding systems for stationary use
D 3840 Screw Presenters
D 3850 Supply systems – Linear hoppers
D 3870 Tape on reel

AUTOMATION

Fully Equipped Manual Work Stations

D 3390 The manual work station

Standardised assembly systems

D 3370 DCAM

Machine building components

D 3350 Controller technology
D 3355 Software
D 3310 Screwdriving function modules

Services

D 3330 Services

Accessories

D 3320 Inserting Tools for Screwdrivers
D 3340 Compressed-air conditioning and accessories
D 3345 Ergonomic tool handling with and without position control

AIR MOTORS

D 6000 Air Motors
D 6200 BASIC LINE
D 6400 ADVANCED LINE
from 20 W up to 1.2 kW
D6600 POWER LINE
from 1.6 up to 18 kW

D 6800 Air vane motors for special applications
D 6900 Speed regulator

GREEN ENERGY

Details will be provided at www.deprag.com

Note	Download → www.deprag.com

LISTING OF INDIVIDUAL CATALOGUES

DEPRAG INDUSTRIAL AIR TOOLS

Details will be provided at
www.depragindustrial.com

GENERAL INFO

D 0030 Corporate Image
D 0012 Complete Product Line
D 0080 Screwdriving Technique and Quality Assurance
D 0090 Preventive maintenance and repair of air-operated tools

DEPRAG

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